Analytical Data Package Prepared For

Fluor Hanford

Radiochemical Analysis By

JUL 2 8 2008

EDMC

TestAmerica TARL

2800 G.W. Way, Richland Wa, 99354, (509)-375-3131.

Data Package Contains Pa

Report Nbr: 39422

G Nbr	SDG Nbr ORDER Nbr	CLIENT ID NUMBER	LOT Nbr	WORK ORDER	RPT DB ID BATCH	BATCH
W05415	I08-038	B1V6H1	J8E200194-1	KNHT01AA	9KNHT010	8148566
		B1V6B7	J8E200194-2	KNHVF1AA	9KNHVF10	8148566
	108-037	B1V669	J8E200207-1	KNH0E1AA	9KNH0E10	8148566
		B1V668	J8E200207-2	KNH0R1AA	9KNH0R10	8148566
	W08-005	B1V8Y9	J8E200211-1	KNHIPIAC	9KNH1P10	8148565
		B1V8Y9	J8E200211-1	KNH1P2AA	9KNH1P20	8177555
		B1V833	J8E200211-2	KNH131AA	9KNH1310	8148566
		B1V8H6	J8E200211-3	KNH162AA	9KNH1620	8177555
		B1V903	J8E200211-4	KNH2A2AA	9KNH2A20	8177555
		B1V8H7	J8E200211-5	KNH2J2AA	9KNH2J20	8177555
	108-039	BIV6P7	J8E210153-1	KNKP11AA	9KNKP110	8142640
		BIV6T9	J8E210153-2	KNKP71AA	9KNKP710	8142640
	108-038	BIV6J3	J8E210164-1	KNKQRIAA	9KNKQR10	8148566
		BIV6J2	J8E210164-2	KNKQ31AA	9KNKQ310	8148566
	S08-005	BIV7M8	J8E210172-1	KNKR01AA	9KNKR010	8148565

Comments:

ТСН	48566	8143553	8143553	8143553	8148562	8148563	8148564	8148563	8148564
) BA	0 81			VE.0E.17					
RPT DB ID BATCH	9KNKRQ10 8148566	9KNPKL10	9KNPKN10	9KNPKP10	9KNPKV10	9KNPK110	9KNPK110	9KNPK410	9KNPK410
WORK ORDER	KNKRQ1AC	KNPKL1AA	KNPKN1AA	KNPKP1AA	KNPKV1AA	KNPK11AA	KNPK11AC	KNPK41AA	KNPK41AC
LOT Nbr	J8E210172-1	J8E220262-1	J8E220262-2	J8E220262-3	J8E220262-4	J8E220262-5	J8E220262-5	J8E220262-6	J8E220262-6
CLIENT ID NUMBER	BIV7M8	B1V295	B1V294	B1V293	BIV2B1	B1V297	B1V297	B1V298	B1V298
ORDER Nbr	S08-005	S08-004							
SDG Nbr	W05415								



Certificate of Analysis

Fluor Hanford 1200 Jadwin Ave. Richland, WA 99352

June 30, 2008

Attention: Steve Trent

SAF Number : 108-038, 108-037, W08-005, 108-039, S08-005, S08-004

Date SDG Closed : May 22, 2008
Number of Samples : Twenty (20)
Sample Type : Water
SDG Number : W05415

Data Deliverable : 45-Day / Summary

CASE NARRATIVE

I. Introduction

Between May 19, 2008 and May 22, 2008 twenty water samples were received at STL Richland (STLR) for radiochemical analysis. Upon receipt, the samples were assigned the following laboratory ID numbers to correspond with the Fluor Hanford specific IDs:

PGW ID#	STLR ID#	DATE OF RECEIPT	MATRIX
B1V6H1	KNHT0	5/19/08	WATER
B1V6B7	KNHVF	5/19/08	WATER
B1V669	KNH03	5/19/08	WATER
B1V668	KNHOR	5/19/08	WATER
B1V8Y9	KNH1P	5/19/08	WATER
B1V833	KNH13	5/19/08	WATER
B1V8H6	KNH16	5/19/08	WATER
B1V903	KNH2A	5/19/08	WATER
B1V8H7	KNH2J	5/19/08	WATER
B1V6P7	KNKP1	5/20/08	WATER
B1V6T9	KNKP7	5/20/08	WATER
B1V6J3	KNKQR	5/20/08	WATER
B1V6J2	KNKQ3	5/20/08	WATER

-	B1V7M8	KNKRQ	5/19/08	WATER	
	B1V2B1	KNPKV	5/22/08	WATER	
	B1V297	KNPK1	5/22/08	WATER	
	B1V298	KNPK4	5/22/08	WATER	
	B1V295	KNPKL	5/22/08	WATER	
	B1V294	KNPKN	5/22/08	WATER	
	B1V293	KNPKP	5/22/08	WATER	

II. Sample Receipt

The samples were received in good condition and no anomalies were noted during check-in.

III. Analytical Results/Methodology

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information, analytical results and the appropriate associated statistical errors.

The requested analyses were:

Alpha Spectroscopy
Plutonium-238, -239/240 by method RICH-RC-5010
Gas Proportional Counting
Gross Alpha by method RICH-RC-5014
Gross Beta by method RICH-RC-5014
Gamma Spectroscopy
Gamma Spec (LL) by method RICH-RC-5017
Iodine-129 (LL) by method RICH-RC-5025
Liquid Scintillation Counting
Technetium-99 by method RICH-RC-5078
Chemical Analysis
Hexavalent Chromium by EPA method 7196A

IV. Quality Control

The analytical results for each analysis performed includes a minimum of one laboratory control sample (LCS), one method (reagent) blank, and one duplicate sample analysis. Any exceptions have been noted in the "Comments" section.

QC and sample results are reported in the same units.

V. Comments

Alpha Spectroscopy

Plutonium-238, -239/240 by method RICH-RC-5010:

The LCS, batch blank, sample and sample duplicate (B1V2B1) results are within contractual requirements.

Gas Proportional Counting

Gross Alpha by method RICH-RC-5014:

The LCS, batch blank, samples and sample duplicate (B1V297) results are within contractual requirements.

Gross Beta by method RICH-RC-5014:

The LCS, batch blank, samples and sample duplicate (B1V298) results are within contractual requirements.

Gamma Spectroscopy

Gamma Spec (LL) by method RICH-RC-5017:

There was insufficient volume for a duplicate. Sample B1V7M8 was recounted on a different detector for the duplicate (B1V7M8 DUP). Except as noted, the LCS, batch blank, samples and sample duplicate (B1TX18) results are within contractual requirements.

Iodine-129 (LL) by method RICH-RC-5025:

The LCS, batch blank, samples and sample duplicate (B1V6H1) results are within contractual requirements.

Liquid Scintillation Counting

Technetium-99 by method RICH-RC-5078:

The TSIE was out of limits on the instrument therefore the data could not be calculated. The samples were shaken and recounted. The TSIE was acceptable and the results were calculated. Except as noted, the LCS, batch blank, samples, sample duplicate (B1V8Y9), and sample matrix spike (B1V8H6) results are within contractual requirements.

Chemical Analysis

Hexavalent Chromium by EPA method 7196A

Batch 8142640

The LCS, batch blank, samples, sample duplicate (B1V6P7), sample matrix spike (B1V6P7), and matrix spike duplicate (B1V6P7) results are within contractual requirements.

Batch 8143553

The LCS, batch blank, samples, sample duplicate (B1V295), sample matrix spike (B1V295), and matrix spike duplicate (B1V295) results are within contractual requirements.

I certify that this Certificate of Analysis is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager, or a designee as verified by the following signature.

Reviewed and approved:

Sandra Seger

Project Manager

Drinking Water Method Cross References

	DRINKING WATER ASTM M	ETHOD CROSS REFERENCES
Referenced Method	Isotope(s)	TestAmerica Richland's SOP No
EPA 901.1	Cs-134, I-131	RICH-RC-5017
EPA 900.0	Alpha & Beta	RICH-RC-5014
EPA 00-02	Gross Alpha (Coprecipitation)	RICH-RC-5021
EPA 903.0	Total Alpha Radium (Ra-226)	RICH-RC-5027
EPA 903.1	Ra-226	RICH-RC-5005
EPA 904.0	Ra-228	RICH-RC-5005
EPA 905.0	Sr-89/90	RICH-RC-5006
ASTM D5174	Uranium	RICH-RC-5058
EPA 906.0	Tritium	RICH-RC-5007

Results in this report relate only to the sample(s) analyzed.

Uncertainty Estimation

TestAmerica Richland has adopted the internationally accepted approach to estimating uncertainties described in "NIST Technical Note 1297, 1994 Edition". The approach, "Law of Propagation of Errors", involves the identification of all variables in an analytical method which are used to derive a result. These variables are related to the analytical result (R) by some functional relationship, R = constants * f(x,y,z,...). The components (x,y,z) are evaluated to determine their contribution to the overall method uncertainty. The individual component uncertainties (u_i) are then combined using a statistical model that provides the most probable overall uncertainty value. All component uncertainties are categorized as type A, evaluated by statistical methods, or type B, evaluated by other means. Uncertainties not included in the components, such as sample homogeneity, are combined with the component uncertainty as the square root of the sum-of-the-squares of the individual uncertainties. The uncertainty associated with the derived result is the combined uncertainty (u_c) multiplied by the coverage factor (1,2, or 3).

When three or more sample replicates are used to derive the analytical result, the type A uncertainty is the standard deviation of the mean value (S/?n), where S is the standard deviation of the derived results. The type B uncertainties are all other random or non-random components that are not included in the standard deviation.

The derivation of the general "Law of Propagation of Errors" equations and specific example are available on request.

	Report Definitions
	upon activity level used to trigger some action when the final result is greater than or equal to the Action en the Action Level is related to the Decision Limit.
Batch The QC pre together.	eparation batch number that relates laboratory samples to QC samples that were prepared and analyzed
Bias Defined by	the equation (Result/Expected)-1 as defined by ANSI N13.30.
COC No Chain of Co	ustody Number assigned by the Client or TestAmerica.
	unting statistics of the gross sample count and background. The uncertainty is absolute and in the same result. For Liquid Scintillation Counting (LSC) the batch blank count is the background.
uc_Combined of the uncer	uncertainties associated with the preparation and analysis of the sample are propagated to give a measure reainty associated with the result, u_c the combined uncertainty. The uncertainty is absolute and in the as the result.
(#s), Coverage The coverage	ge factor defines the width of the confidence interval, 1, 2 or 3 standard deviations.
CRDL (RL) Contractual	Required Detection Limit as defined in the Client's Statement Of Work or TestAmerica "default" tection limit. Often referred to the reporting level (RL)
associated v Sqrt(2*(Bk	evel based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume with the sample. The Type I error probability is approximately 5%. Lc=(1.645 * grndCnt/BkgrndCntMin)/SCntMin)) * (ConvFct/(Eff*Yld*Abn*Vol) * IngrFct). For LSC methods the is used as a measure of the background variability. Lc cannot be calculated when the background count
	r assigned by the LIMS software to track samples received on the same day for a given client. The other is a sequential number assigned to each sample in the Lot.
with a Type Sqrt((Bkgrr	evel based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume at land II error probability of approximately 5%. MDC = (4.65 * ndCnt/BkgrndCntMin)/SCntMin) + 2.71/SCntMin) * (ConvFct/(Eff * Yld * Abn * Vol) * IngrFct). For ds the batch blank is used as a measure of the background variability.
Primary Detector The instrum	nent identifier associated with the analysis of the sample aliquot.
Ratio U-234/U-238 The U-234 1.038.	result divided by the U-238 result. The U-234/U-238 ratio for natural uranium in NIST SRM 4321C is
confidence.	Result to the MDC. A value greater than 1 may indicate activity above background at a high level of Caution should be used when applying this factor and it should be used in concert with the qualifiers with the result.
indicate act interval. Co	Result to the Total Uncertainty. If the uncertainty has a coverage factor of 2 a value greater than 1 may ivity above background at approximately the 95% level of confidence assuming a two-sided confidence aution should be used when applying this factor and it should be used in concert with the qualifiers with the result.
Report DB No Sample Ide Number.	ntifier used by the report system. The number is based upon the first five digits of the Work Order
sample resu	on Replicate Error Ratio = $(S-D)/[sqrt(TPUs^2 + TPUd^2)]$ as defined by ICPT BOA where S is the original slit, D is the result of the duplicate, TPUs is the total uncertainty of the original sample and TPUd is the ainty of the duplicate sample.
SDG Sample Del	ivery Group Number assigned by the Client or assigned by TestAmerica upon sample receipt.
	the reported alpha spec results for tests derived from the same sample excluding duplicate result where are in the same units.
Work Order The LIMS	software assign test specific identifier.
Yield The recover	ry of the tracer added to the sample such as Pu-242 used to trace a Pu-239/40 method.

TESTAMERICA

FormMbr:	œ	FormatType: FEAD	FEAD	Version: 05	m: 05	Rpt N	Rpt Nbr: 39422		File Name:	h:\Reportdb\e	dd\FeadIV\Rad	W0541	5.Edd, h:\Rep	ortdb/ed	File Name: h:\Reportdb\edd\Fead\VRad\W05415.Edd, h:\Reportdb\edd\Fead\VRad\39422.Edd	Edd
Lab Samole Id:	Client	Test	Contract	ontract Nbr	SAF No	r Sdg	2 2	I E SS	Moisture/ Solids%*:	Distilled	Sal C	Sample On Date:		3	Collection Date:	
	B1V669		MW6-S	MW6-SBB-A1 108-037	08-037	W05415								05/18/2	05/18/2008 11:40	
Batch	Analyte	CAS#	8	Result	Unit	CntU 2S	TotU 2S	Pan O	MDA	TrcYield	Method		Alq Size	S.	Analy Date/Time	Act
8148566	I-129L	15046-84-1		1.07E+00	PCI	3.8E-01	3.8E-01	>	5.50E-01	94.3	1129LL_SEP_LEPS 3.859E+00	LEPS	3.859E+00	ı	06/25/2008 09:09	60
Lab	Client	Test	Contract	untract	SAF Nbr	Sdg	8		Moisture/	Distilled	S	Sample		8	Collection	
	B1V668	500	WW6-S	MW6-SBB-A1 108-037	08-037	W05415					5	ogra.		05/18/2	05/18/2008 11:40	
Batch	Analyte	CAS#	S.	Result		CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method		Alq Size	Unit	Analy Date/Time	Act
8148566	I-129L	15046-84-1		8.02E-01	PCi/L	4.1E-01	4.1E-01	ם	5.61E-01	95.1	1129LL_SEP_LEPS 3.7786E+00	LEPS	3.7786E+00	٦	06/25/2008 09:10	
7	Client	Test	Contract	ta ta	SAF Nbr				Moisture/	Distilled	Sai	Sample		8	Collection	
Sample Id: 9KNH1310	ld: B1V833	User	MW6-S	NWA-SBB-A1 W08-005	V08-005	Nbr: W05415	Type:	75.57	Solids%:	Volume	ē	On Date:		05/18/2	Date: 05/18/2008 12:15	
		7000				Į		-	****	To Marie			Al- 6	1		
Batten 8148566	Analyte I-129L	15046-84-1		1.97E-01	DC/L	1.6E-01	1.6E-01	<u> </u>	3.31E-01	88.1	Method Aug Size	LEPS :	Aug Size 3.8885E+00	Ĭ -	06/25/2008 09:11	- ¥
Lab Sample 14:	Client	Test	Contract	ontract	SAF Nbr	Sdg	20 5	- ×	Moisture/	Distilled	Sal	Sample On Date:		3	Collection	
	B1V8H6		MW6-S	MW6-SBB-A1 W08-005	V08-005	Š					2			06/27/2008	900	
Batch	Analyte	CAS#	ş	Result	Chit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method		Alq Size	E E	Analy Date/Time	Act
22	TC-99	14133-76-7		-2.53E-03	pCi/g	4.4E-03	6.4E-03	ם	1.06E-02	100.0	TC99_SEP_LSC		1.2501E+02	Ø	06/26/2008 18:45	
Lab Sample Id:	Cllent	Test	Contra	Contract	SAF Nb	r Sdg	၁ ခို		Moisture/ Solids%:	Distilled	Sai	Sample On Date:		8	Collection Date:	
	B1V8Y9		MW6-S	MW6-SBB-A1 W08-005	V08-005	Š								05/18/2	05/18/2008 11:52	
Batch	Analyte	CAS#	Re	Result	S.	CntU 2S	Totu 2S	Ona	MDA	TrcYield	Method		Alq Size	Sir	Analy Date/Time	Act
8148565	BE-7	13966-02-4		5.48E+00	pCi/L	1.6E+01	1.6E+01	כ	2.99E+01		GAMMALL_GS		2.0003E+00	د	06/16/2008 13:42	5
8148565	09-00	10198-40-0		-1.01E+00	PCI/L	1.7E+00	1.7E+00	>	2.83E+00		GAMMALL_GS		2.0003E+00	ب	06/16/2008 13:42	42
8148565	CS-134	13967-70-9		6.83E-01	PCI/L	1.6E+00	1.6E+00	b	3.12E+00		GAMMALL_GS	-	2.0003E+00	_	06/16/2008 13:42	42
8148565	CS-137	10045-97-3		6.00E-01	pCi/L	1.8E+00	1.8E+00	>	3.35E+00		GAMMALL_GS	6.8	2.0003E+00	٦	06/16/2008 13:42	42
8148565	EU-152	14683-23-9		3.33E-01	PC/L	4.0E+00	4.0E+00	>	6.95E+00		GAMMALL_GS		2.0003E+00	_	06/16/2008 13:42	5
8148565	EU-154	15585-10-1	(Amelia L)	4.80E+00	pCi/L	4.0E+00	4.0E+00	J	9.09E+00		GAMMALL_GS	All	2.0003E+00	_	06/16/2008 13:42	42
8148565	EU-155	14391-16-3		-2.16E+00	PCI/L	3.0E+00	3.0E+00	-	4.89E+00		GAMMALL_GS	10.3	2.0003E+00	ب	06/16/2008 13:42	42
8148565	K-40	13966-00-2		4.17E+00	pCI/L	4.0E+01	4.0E+01	כ	3.50E+01		GAMMALL_GS		2.0003E+00	_	06/16/2008 13:42	45
8148565	RU-106	13967-48-1		5.73E+00	pCi/L	1.4E+01	1.4E+01	כ	2.72E+01		GAMMALL_GS		2.0003E+00	_	06/16/2008 13:42	42
8148565	SR-125	14234.35.6		2 ARELON	1,00	3 OF TO	2 05100	=	R 42E+00	N.E.	CAMMAII GS	7	2 0003F+00	=	06/18/2008 13:42	ç

TestAmerica

rptFeadRadSummaryEdd v3.48

U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide. J Qual - No U qualifier has been assigned and the result is below the Reporting Limit (CRDL). B Qual - Analyte was found in the associated laboratory blank above the MDC.

6/30/2008	6/30/2008 2:32:56 PM	N				TestAmerica	rica	Report				-	Lab Code: TARL	
FormNbr: R	œ	FormatType: FEAD		Version: 05	Rpt N	Rpt Nbr. 39422	ш	ile Name:	::\Reportdb\e	adVFeadVVRadVW054	15.Edd, h:\Rep	ortdb\ed	File Name: h:\Reportdb\edd\Fead\VRad\W05415.Edd, h:\Reportdb\edd\Fead\VRad\39422.Edd	P
Sample Id: 9KNH1P20	Client Id: B1V8Y9	Test User	Contract SAF Nbr Nbr MW6-SBB-A1 W08-005	SAF NIS	Nbr: W05415	, 5 <u>F</u>		Moisture/ Solids%":	Distilled	Sample On Date:		Collecti Date 06/27/2008	Collection Date: 27/2008	
Batch 8177555	Analyte TC-99	CAS# 14133-76-7	Result 1.31E+00	Unit pCi/g	CntU 2S 2.0E-02	TotU 2S (8.5E-02	Qual	MDA 1	rcYield 100.0	Method TC99_SEP_LSC	Alq Size 1.25E+02	Unit	Analy Date/Time 06/26/2008 16:40	₽ −
Lab Sample Id: 9KNH2A20	Cilent Id: B1V903	Test User	Contract SAF Nbr Nbr MW6-SBB-A1 W08-005	SAF Nbr	Nbr:	S 5		Moisture/ Solids%*:	Distilled	Sample On Date:		Collecti Date 06/27/2008	Collection Date: 27/2008	
Batch 8177555 T	Analyte TC-99	CAS# 14133-76-7	Result 3.66E-01	Unit pCi/g	1.1E-02	TotU 2S (Qual	MDA 1.05E-02	rcYleld 100.0	Method TC99_SEP_LSC	Alq Size 1.2502E+02	Unit	Analy Date/Time 06/26/2008 20:50	& –
Lab Sample Id: 9KNH2J20 B	Client Id: B1V8H7	Test User	Contract SAF Nbr Nbr MW6-SBB-A1 W08-005	SAF Nbr	Nbr:	S 5.		Moisture/ Solids%*:	Distilled	Sample On Date:		Collecti Date 06/27/2008	Collection Date: 27/2008	
Batch 8177555 T	Analyte TC-99	CAS# 14133-76-7	Result 7.38E-03	Unit pCi/g	CmtU 2S 4.7E-03	TotU 2S (7.0E-03	Qual C	1.05E-02	100.0	Method TC99_SEP_LSC	Alq Size 1.2501E+02	Unit G	Analy Date/Time 06/26/2008 21:52	₽ —
Lab Sample Id: 9KNHT010 B	Client Id: B1V6H1	Test User	Contract SAF N Nbr MW6-SBB-A1 108-038	SAF Nbr	Nbr: W05415	O Type		Moisture/ Solids%*:	Distilled	Sample On Date:		Col 1 05/18/2	Collection Date: 05/18/2008 12:30	
Batch 8148566	Analyte I-129L	CAS# 15046-84-1		Unit PCI/L	CntU 2S 1.4E-01	TotU 2S (Oual U	MDA 2.55E-01	TrcYield 97.8	Method Alq Size	Alq Size 3.9011E+00	Unit	Analy Date/Time 06/25/2008 07:20	₹ -
Lab Cilen Sample Id: Id: 9KNHVF10 B1V6B7	Client Id: 81V6B7	Test User	Contract SAF N Nbr MW6-SBB-A1 108-038	SAF Nbr	Nbr: W05415	S		Moisture/ Solids%*:	Distilled	Sample On Date:		Col 1 05/18/2	Collection Date: 05/18/2008 14:05	
Batch 8148566	Analyte I-129L	CAS# 15046-84-1	Result 1.14E+00	PC/L	3.0E-01	3.0E-01		MDA TrcYiel 5.36E-01 97.3	v	Method Alq Size 1129LL_SEP_LEPS 3.8961E+00	Alq Size 3.8961E+00	Unit L	Analy Date/Time 06/25/2008 07:23	₽ –
Lab Sample td: 9KNKQ310 B	Client Id: B1V6J2	Test User	Contract SAF N Nbr MW6-SBB-A1 108-038	SAF Nbr	Nbr: W05415	S F		Moisture/ Solids%::	Distilled	Sample On Date:		Col 1 05/19/2	Collection Date: 05/19/2008 11:51	
Batch 8148566	Analyte I-129L	CAS# 15046-84-1	Result -8.42E-02	DCI/L	1.3E-01	TotU 28 (Qual	MDA 2.19E-01	TrcYield 95.1	Method Alq Size 1129LL_SEP_LEPS 3.8196E+00	Alq Size 3.8196E+00	Unit	Analy Date/Time 06/25/2008 10:57	\$ -
Lab Clien Sample Id: Id: 9KNKQR10 B1V6J3	Client Id: 31V6J3	Test User	Contract SAF N Nbr MW6-SBB-A1 108-038	SAF Nbr	No5415	O Y		Moisture/ Solids%*:	Distilled	Sample On Date:		Col L 05/19/2	Collection Date: 05/19/2008 09:15	
Batch 8148566 -	Analyte I-129L	CAS# 15046-84-1	Result -4.45E-02	Unit PCI/L	1.7E-01	TotU 2S (Qual C	MDA TrcYlel 2.98E-01 82.7	0	Method Alq Size 1129LL_SEP_LEPS 3.8363E+00	Alq Size 3.8363E+00	Guit L	Analy Date/Time 06/25/2008 10:55	¥ –
TestAmerica rptFcadRadSummaryEdd v3.48	Summary	Edd v3.48	U Qual - J Qual - B Qual -	U Qual - Analyzed I J Qual - No U qual B Qual- Analyte w	for, but th iffer has b as found in	e result is leen assigne	ess thand and ated la	n the Mdc the result iboratory	or gamma is below th blank abov	U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide. J Qual - No U qualifier has been assigned and the result is below the Reporting Limit (CRDL). B Qual- Analyte was found in the associated laboratory blank above the MDC.	ify the nuclic (CRDL).	9		2

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6/30/2008 2:32:56 PM	FormNbr: R FormatType: FEAD	Lab Client Test Contract Sample Id: User Nbr 9KNKRQ10 B1V7M8 MW6-SBB-A1	rte CAS#	BE-7 13966-02-4 4.16E-02 CO-60 10198-40-0 2.89E+01	13967-70-9	CS-137 10045-97-3 1.016	EU-152 14683-23-9 -9.26	EU-154 15585-10-1 7.46E-01	EU-155 14391-16-3 1.806	K-40 13966-00-2 4.57	RU-106 13967-48-1 -1.13	SB-125 14234-35-6 -2.09	
	Version: 05	act SAF Nbr r 3B-A1 S08-005		E-02 PC/L		1.01E+00 pCi/L	-9.26E-01 pCi/L	E-01 pCi/L	1.80E+00 pCI/L	4.57E+01 pCi/L	-1.13E+01 pCi/L	-2.09E+00 pCI/L	
Test	Rpt Nbr: 39422	NBr:		1.8E+01 1.8 6.9E+00 6.9		1.7E+00 1.7	4.3E+00 4.3	6.3E+00 6.3	2.7E+00 2.7	3.9E+01 3.9	1.7E+01 1.7	4.2E+00 4.2	
tAmeric	39422	QC Type:	TotU 2S Qual	1.8E+01 U	2.3E+00 U	1.7E+00 U	4.3E+00 U	6.3E+00 U	2.7E+00 U	3.9E+01 U	1.7E+01 U	4.2E+00 U	
TestAmerica Report	File Name: h:\Rep	Moisture/ Dis Solids%*: Vo		3.14E+01 3.60E+00	4.16E+00	3.23E+00	7.26E+00	1.15E+01	5.03E+00	7.31E+01	2.76E+01	7.00E+00	
	File Name: h:\Reportdb\edd\FeadIV\Rad\W05415.Edd, h:\Reportdb\edd\FeadIV\Rad\39422.Edd	Distilled Sample Volume On Date:		GAMMALL GS	GAMIMALL GS	GAMMALL_GS	GAMMALL_GS	GAMMALL_GS	GAMMALL_GS	GAMMALL_GS	GAMMALL_GS	GAMMALL_GS	
	15.Edd, h:\Report			2.0004E+00	2.0004E+00	2.0004E+00	2.0004E+00	2.0004E+00	2.0004E+00	2.0004E+00	2.0004E+00	2.0004E+00	
Lab Code: TARL	1b\edd\FeadIV\Ra	Collection Date: 05/19/2008 12:45	Unit Analy Date/Time	L 06/16/2008 13:43 L 06/16/2008 13:43	L 06/16/2008 13:43	L 06/16/2008 13:43	L 06/16/2008 13:43	L 06/16/2008 13:43	L 06/16/2008	L 06/16/2008	L 06/16/2008	L 06/16/2008	
궣	13942		Time	8 2	33	3 13	3 135	3 13	8 13:43	8 13:43	8 13:43	8 13:43	

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Lab Sample Id:	Client Id:	Test User	Contract	SAF Nbr	r Sdg	Jype:		Moisture/ Solids%*:	Distilled Volume	Sample On Date:	- H	8 -	Collection Date:		
9KNPK110	B1V297		MW6-SBB-A1 S08-004	S08-004	W05415							05/22/2	05/22/2008 10:00		
Batch 8148563	Analyte Al PHA	CAS#	Result 7.34F+00	Cill Chilt	CHU 28	7 SE+00	Dena Orași	MDA TrcYield	TrcYield	Method Alq Size	Alq Size	call	Analy Date/Time		- Act
	BETA	12587-47-2		PC/L	3.9E+00	1.0E+01		2.83E+00 100.0	100.0	9310_ALPHABETA 2.002E-01	A 2.002E-01		06/16/2008 14:16	14:16	-
Lab Cilen Sample Id: Id: 9KNPK410 B1V298	Cilent Id: B1V298	Test User	Contract SAF Nb Nbr MW6-SBB-A1 S08-004	SAF Nbr S08-004	Nbr: W05415	oc Pr		Moisture/ Solids%*:	Distilled	Sample On Date:	- 8	Col	Collection Date: 05/22/2008 10:00		
Batch 8148563	Analyte ALPHA	CAS# 12587-46-1	Result 5.88E+00	PC/L	CntU 2S 1.8E+00	Totu 28 2.3E+00	Qual	MDA TrcYield 1.47E+00 100.0	TrcYield 0 100.0	Method Alq Size 9310_ALPHABETA 2.002E-01	Alq Size 7A 2.002E-01	를	Analy Date/Time 06/16/2008 21:15	me 21:15	¥ −
8148564	BETA	12587-47-2	7.02E+01	PCI/L	3.9E+00	9.9E+00		2.65E+00 100.0	100.0	9310_ALPHABETA 2.001E-01	A 2.001E-01	_	06/16/2008 14:16	14:16	_
Lab Clien Sample Id: Id: 9KNPKV10 B1V2B1	Client Id: B1V2B1	Test User	Contract SAF Nb Nbr MW6-SBB-A1 S08-004	SAF Nbr	Nbr: W05415	OC Type:	1	Moisture/ Solids%*:	Distilled	Sample On Date:	. "	Col	Collection Date: 05/22/2008 10:00		
	Analyte	CAS#		Chit			Qual	MDA	TrcYield	Method	Alq Size	Calt	Analy Date/Time		PC.
8148562	PU-238	13981-16-3 PU-239/240	0.00E+00 8.22E+00	철 청	1.1E-01	1.1E-01 1.8E+00	5	2.54E-01 63.3 2.54E-01 63.3	63.3	PUISO_PLATE_AE 2.024E-01	E 2.024E-01	.	06/11/2008 14:22	14:22	

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TestAmerica rptFcadRadSummaryEdd v3.48

U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide. J Qual - No U qualifier has been assigned and the result is below the Reporting Limit (CRDL). B Qual - Analyte was found in the associated laboratory blank above the MDC.

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Monday, June 30, 2008	8002			L	estAme	rica QC	TestAmerica QC Blank Report	Report			3	Lab Code: TARL	TARL	
FormNbr: R		FormatT	FormatType: FEAD	>	VersionNbr: 05	92	File Name:	File Name: h:\Reportdb\edd\FeadIV\Rad\W05415.Edd, h:\Reportdb\edd\FeadIV\Rad\39422.Edd	adiV\Rad\W05415.E	5.Edd, h:\Rep	ortdb/edd/	FeadIWR	ad\39422.	Egd
Lab Sample Id: Client Id:	d: KNXG01AB NA	œg.		ŭ Z d	Sdg/Rept Nbr: W05415 Matrix: WATER	or: W05415 WATER		39422 WATER	Collect	Collection Date: 05/22/2008 10:00 Sample On Date:	05/22/2008	2008 10	00	
Moisture/Solids%":	:_%sp			Ġ.	C lype:	BLA			Receiv	Received Date:	מאקקיי	997		Ì
SAF Nbr	Contract Nbr MW6-SBB-A19981	-	Test User	Case N	Nbr SAS	SAS Nbr	Suffix	Decant D	Distilled Volume	Œ	File Id		FSuffix RTyp AX H	E I
Batch # / Analy/ Qc Type CAS# 8148563 ALPHA BLK 12587-46-7	Result/ Orig Rst 8.39E-02	Unit PCI/L	Tot/Cnt Unit Uncert 2S pCI/L 3.1E-01 3.1E-01	ġ = ⊃	MDC 8.19E-01	Tracer Yield 100.0	Spk Conc/	Analy Method 9310_ALPHAB	Aliq Size/ 2.005E-01 L	Date/Time Analyzed 06/16/2008 21:15	RPD/ UCL	RERV	LCS R LCL/UGL Typ D	<u>_</u> _

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U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide. J Qual - No U qualifier has been assigned and the result is below the Reporting Limit (CRDL). B Qual - Analyte was found in the associated laboratory blank above the MDC.

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Monday, June 30, 2008	2008			-	estAmo	erica	TestAmerica QC Blank Report	Report			Ę	Lab Code: TARL	ARL
FormNbr: R	2	FormatT	FormatType: FEAD		VersionNbr. 05	8	File Nam	File Name: h:\Reportdb\edd\FeadIV\Rad\W05415.Edd, h:\Reportdb\edd\FeadIV\Rad\39422.Edd	eadIV/Rad/W0541	5.Edd, h:\Repo	ortdb/edd/F	eadIWR	ad/39422.Ed
Lab Sample Id:	Id: KNXG11AB	18		S	Sdg/Rept Nbr: W05415	lbr: V		39422	Collec	Collection Date: 05/22/2008 10:00	05/22/2	008 10	00
Client Id:	AN			ž	fatrix:	5	WATER	WATER	Samp	Sample On Date:			
Moisture/Solids%*:	lids%;:			ď	ac Type:	Φ	BLK		Receiv	Received Date: 05/22/2008	05/22/2	800	
SAF Nbr	Contract Nbr MW6-SBB-A19981		Test User	Case	Nbr SA	SAS Nbr	Suffix	Decant	Distilled Volume	Ē	File Id		FSuffix RTyp AZ H
Batch # / Analyt Qc Type CAS# 8148564 BETA BLK 1258747-2	Result Orig Rst 1.01E+00	Unit PCi/L	Tot/Cnt Uncart 2S 1.3E+00 1.2E+00	ᄒᄛᄀ	MDC Yiele 2.61E+00 100.0	Tracer Yield 100.0	r Spk Concl	Method 9310_ALPHAB	Aliq Size/ 3 2.002E-01 L	Date/Time Analyzed 06/16/2008 14:16	RPD/ UCL	RER/ UCL	LCS R LCL/UCL Typ

TestAmerica U Q rptFcadRadEdd v3.68 J Q

U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide. J Qual - No U qualifier has been assigned and the result is below the Reporting Limit (CRDL). B Qual - Analyte was found in the associated laboratory blank above the MDC.

FormNbr: R					estamer	ica O	TestAmerica QC Blank Report	Report			La	Lab Code: TARL	LARL
		Format	FormatType: FEAD		VersionNbr: 0	88	File Name	File Name: h:\Reportdb\edd\Fead\VRad\W05415.Edd, h:\Reportdb\edd\Fead\VRad\39422.Edd	sadIV/Rad/W0541	S.Edd, h:\Repo	rtdb/edd/	FeadIMR	ad\39422.E
Lab Sampie id:	KNXG21AB	щ		U)	Sdg/Rept Nbr:	r: W05415		39422	Collect	Collection Date:	05/19/2008 12:45	2008 12	:45
Client Id:	Y Y			_	Matrix:	WATER		WATER	Sampl	Sample On Date:			
Moisture/Solids%*:	: 4%=:			٥	QC Type:	BLK			Receiv	Received Date:	05/20/2008	5008	
SAF Nbr Mv	Contract Nbr MW6-SBB-A19981		Test User	Case	Nbr SAS Nbr	ğ	Suffix	Decant	Distilled Volume	Ē	File Id		FSuffix RTyp BB H
Batch # / Analyt/ Qc Type CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	å a	MDC	Tracer	Spk Conc/ %Rec	Analy	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER	רכו/ומר רכו/ומר
	(C)	PC!/	1.0E+01	ם	1.90E+01			GAMMALL GS	2	06/16/2008	li Vi G		۵
8148565 COLEO	3 30E-01	į	1.0E+01	7	2 44E400			CANAMACA	L	13:43			
		7	1.1E+00)	2.146.00			20 TOMINION	GAINIMALL GS 2.0002E700 00/10/2008	13:43			2
2	4.30E-01	PCIV	1.0E+00	5	2.00E+00			GAMMALL_GS	GAMMALL_GS 2.0002E+00 06/16/2008	06/16/2008			٥
BLK 13967-70-9 8148565 CS-137	2.00E+00	PC/	1.0E+00	_	2.33E+00			GAMMAII GS	L 13:43 GAMMAII GS 2 0002F+00 06/16/2008	13:43			
			1.2E+00	į						13:43			
2	-5.83E-01	PCI/L	2.6E+00	>	4.44E+00			GAMMALL_GS	3 2.0002E+00 06/16/2008	06/16/2008			0
			2.6E+00						٦	13:43			
8148565 EU-154 BLK 15585-10-1	3.73E-01	PC/	3.6E+00	-	6.77E+00	*		GAMMALL_GS	3 2.0002E+00 06/16/2008	06/16/2008			۵
10	8.82E-02	PCIA	2.4E+00	D	4.26E+00			GAMMALL GS	GAMMALL GS 2.0002E+00 06/16/2008	06/16/2008			۵
BLK 14391-16-3			2.4E+00						_	13:43			
8148565 K-40 RIK 13966-00-2	-9.73E+00	PC!/	2.4E+01	>	4.63E+01			GAMMALL_GS	GAMMALL_GS 2.0002E+00 06/16/2008	06/16/2008			۵
TO.	2.55E+00	PCI/L	9.3E+00)	1.71E+01			GAMMALL_GS	GAMMALL_GS 2.0002E+00 06/16/2008	06/16/2008			Ω
BLK 13967-48-1 8148565 SB-125	-9 ARE-02	į	9.3E+00	=	4 38F+00			GAMMAII	CAMMANI GS 2 DODSELOD DELLEDORS	13:43			6
		1	2.45.00	,	700-100-1			25 THUMIND	- 2.00066.00	42.42			•

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Monday, June 30, 2008	30, 2008				_	estAm	erica	TestAmerica QC Blank Report	Report			2	Lab Code: TARL	TARL	
Formi	FormNbr: R	2	ormatTy	FormatType: FEAD		VersionNbr: 05	8	File Na	ne: h:\Reportdb\edd	File Name: h:\Reportdb\edd\FeadiV\Rad\W05415.Edd, h:\Reportdb\edd\FeadiV\Rad\39422.Edd	5.Edd, h:\Rep	ortdb/edd/	FeadIWR	ad/39422.	Edd
Lab Sample Id: Client Id:	ole Id:	KNXG41AB NA	σ0		υΣC	Sdg/Rept Nbr: W05415 Matrix: WATER	Nbr:	W05415 WATER	39422 WATER	Collec	Collection Date: 05/18/2008 12:30 Sample On Date:	. 05/18/.	2008 12	930	
SAF Nbr Contra	Cont	Contract Nbr MW6-SBB-A19981	۲	Test User	888	Nbr SA	SAS Nbr	Suffix	Decant	Distilled Volume	Volume File	File Id	i	FSuffix RTyp BD H	E I
Batch # / Anal Qc Type CA 8148566 -1291, RI K 15046.	Analyti CAS# I-129L 15046-84-1	Result Orig Rst -6.57E-02	Unit PCI/L	TouCnt Unit Uncert 2S pCi/L 1.3E-01	å ₹ ⊃	MDC 2.30E-01	Tracer Yield 98.9	er Spk Conc/ d %Rec		Analy Aliq Date/Time Method Size/ Analyzed 1129LL_SEP_L 3.9748E+00 06/25/2008	Date/Time Analyzed 06/25/2008	RPD/ UCL	RER	LCS R LCL/UCL Typ	۳, _ک

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Monday, June 30, 2008	2008			_	TestAn	nerica	TestAmerica QC Blank Report	k Repor	+			-1	Lab Code: TARL	LARI
FormNbr. R	œ	FormatT	FormatType: FEAD		VersionNbr: 05	88	File Na	me: h:\Repor	tdb/edd/Fea	dIV/Rad/W05	File Name: h:\Reportdb\edd\Fead!\ARad\W05415.Edd, h:\Reportdb\edd\Fead!\ARad\39422.Edd	ortdb/edd/	FeadIVIR	ad\39422.E
Lab Sample Id:	d: KNXG82AB	8		S	Sdg/Rept Nbr: W05415	Nbr.	N05415	39422		Colle	Collection Date: 06/27/2008	06/27/	2008	
Client Id:	¥			2	Matrix:		WATER	WATER		Sam	Sample On Date:	u		
Moisture/Solids%*:	ds%*:			9	QC Type:		BLK			Rece	Received Date: 05/19/2008	05/19/2	2008	
SAF Nbr	Contract Nbr MW6-SBB-A19981		Test User	Case Nbr		SAS Nor	Suffix	Decant		Distilled Volume		E E		FSuffix RTyp BF H
Batch # / Analyt/ Qc Type CAS#		ž	Tot/Cnt Uncert 2S	ģ e	MDC	Tracer	er Spk Conc/	no/ Analy Method	8 ≤	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RERV	LCS R LCL/UCL Typ
8177555 TC-99 BLK 14133-76-7	-2.96E-03 F7	pCi/g	pCi/g 6.4E-03 4.4E-03	5	1.07E-02	100.0		109	TC99_SEP_LS	1.25E+02 G	06/26/2008			

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Monday, Ju	Monday, June 30, 2008				1	TestAme	rica	TestAmerica QC Blank Report	k Report	1.2.2			1	Lab Code: TARL	TARL	
Ē	FormNbr: R	ŭ	ormatTy	FormatType: FEAD		/ersionNbr: 05	8	Fie	ime: h:\Report	1b\edd\Fea	File Name: h:\Reportdb\edd\Fead\V\Rad\W05415.Edd, h:\Reportdb\edd\Fead\V\Rad\39422.Edd	5.Edd, h:\Rep	ortdb/edd/	FeadIMR	ad\39422.E	뭥
Lab Samp Client Id: Moisture/	Lab Sampie Id: Client Id: Moisture/Solids%*:	KNXGW1AB NA	cg		w ≥ 0	Sdg/Rept Nbr: W05415 Matrix: WATER QC Type: BLK	ig .	W05415 WATER BLK	39422 WATER		Collect Sampl Receiv	Collection Date: 05/22/2008 10:00 Sample On Date: 05/22/2008	05/22/7	2008 10	00:	
SAF Nbr	Col	Contract Nbr MW6-SBB-A19981		Test User	Case	Nbr SAS	SAS Nbr	Suffix	Decant	7 2	Distilled Volume		File Id		FSuffix RTyp BH H	ĮŽΙ
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Cait	Tot/Cnt Uncert 28	충표	MDC	Tracer	ar Spk Conc/	inc/ Analy c Method	_ 70	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCL/UCL Typ	
8148562 PU-238	U-238		pCi/L	9.0E-02	>	2.44E-01	81.3		PUISC	PUISO_PLATE	2.003E-01	06/11/2008				0
BLK 13	13981-16-3			9.0E-02							_	14:23				
8148562 Pt	PU-239	-8.64E-03	pCi/L	8.8E-02	⊃	2.07E-01 81.3	81.3		PUISC	PLATE	PUISO_PLATE 2:003E-01	06/11/2008				۵
BLK	PU-239/240			8.8E-02							ب	14:23				

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Monday, June 30, 2008	30, 2008			Н	estAm	ierica	2200	ntrol Sar	TestAmerica QC Control Sample Report			Ę	Lab Code: TARL	ARL
FormNbr: R	br. R		FormatTy	FormatType: FEAD	\$	VersionNbr: 05	90		File Name: h:\Reportdb\edd\FeadiV\Rad\W05415.Edd, h:\Reportdb\edd\FeadiV\Rad\39422.Edd	eadIV/Rad\W0541	5.Edd, h:'Rep	\ppa\qp\c	FeadIVIR	ad/39422.E
Lab Sample Id: Client Id: Moisture/Solids**:	le Id: Solids*:	KNXG01CS NA	γ		S Ag	Sdg/Rept N Matrix: QC Type:	Sdg/Rept Nbr: W05415 Matrix: WATER QC Type: BS		39422 WATER	Collec Sampl Receiv	Collection Date: 05/22/2008 10:00 Sample On Date: Received Date: 05/22/2008	05/22/2	2008 10	8
SAF Nbr	Contr MW6-S	Contract Nbr MW6-SBB-A19981	4	Test User	Case Nb	Nbr SA	SAS Nbr	Suffix	Decant	Distilled Volume		File Id		FSuffix RTyp AY H
Batch #/ Analy Qc Type CASI 8148563 ALPHA BS 12587-4	Analys CAS# ALPHA 12587-46-1	Result/ Orig Rst 2.04E+01	Unit PCI/L	Tot/Cnt Unit Uncert 2S pCi/L 5.1E+00 2.9E+00	9 4	MDC 8.41E-01	Tracer Yield 100.0	Spk Conc/ %Rec 2.26E+01 90.6	Analy Method 9310_ALPHAB	Aliq Size/ 3 2.003E-01 L	Date/Time Analyzed 06/17/2008 07:05	RPD/ UCL	RERV	LCS R LCL/UCL Typ 70 D 130

U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide. J Qual - No U qualifier has been assigned and the result is below the Reporting Limit (CRDL). B Qual - Analyte was found in the associated laboratory blank above the MDC.

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Monday,	Monday, June 30, 2008	98			estA	merica	0	Control S:	TestAmerica QC Control Sample Report	100			1	Lab Code: TARL	LAR	
	FormNbr: R	1	FormatT	FormatType: FEAD	-	VersionNbr: 05	98	File Na	File Name: h:\Reportdb\edd\FeadIV\Rad\W05415.Edd, h:\Reportdb\edd\FeadIV\Rad\39422.Edd	edd\Fead	IIV/Rad/W0541	5.Edd, h:\Repo	ortdb\edd\f	FeadIMR	ad/39422	Edd
Lab Clier Mois	Lab Sampie id: Client Id: Moisture/Solids%*:	KNXG11CS NA 8 % *:	g		ωΣσ	Sdg/Rept Nbr: W05415 Matrix: WATER QC Type: BS	N. P.	W05415 WATER BS	39422 WATER		Collec Sampl Receiv	Collection Date: 05/22/2008 10:00 Sample On Date: 05/22/2008 Received Date: 05/22/2008	05/22/2	2008 10	00	
SAF Nbr		Contract Nbr MW6-SBB-A19981		Test User	Case	Nbr SA	SAS Nbr	Suffix	Decant	SiO	Distilled Volume		File Id		FSuffix RTyp BA H	E I
Batch # /	Analyti CAS#	Result/ Orig Rst	Unit	TouCnt Uncert 2S	Ş e	MDC	Tracer	er Spk Conc/	nc/ Analy Method		Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER	LCS R	ا- ج ج
8148564 Be	BETA	2.48E+01	PCIL	pCi/L 3.9E+00		2.30E+00 100.0	100.0		1 9310_ALPHAB		1.999E-01	06/16/2008			0 02	۵
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Monday, June 30, 2008	, 2008	8			estAn	nerica (D D	ontrol Sa	TestAmerica QC Control Sample Report	+			Lab	Lab Code: TARL	TARL	
FormNbr: R	œ		Formati	FormatType: FEAD	S	VersionNbr: 05	35	File Nam	File Name: h:\Reportdb\edd\FeadiV\Rad\W05415.Edd, h:\Reportdb\edd\FeadiV\Rad\39422.Edd	FeadIMRad	W05415.E	dd, h:\Repo	rtdb/edd/F	eadIVIR	ad/39422	Edd.
Lab Sample id: Client Id: Moisture/Solids%*:	e id: olids*:	KNXG21CS NA	ss		Soi.	Sdg/Rept Nbr: W05415 Matrix: WATER QC Type: BS	W WA		39422 WATER	0 2	Collection Date: Sample On Date Received Date:	**	05/19/2008	2008 12	:45	
SAF Nbr	Contr.	Contract Nbr MW6-SBB-A19981		Test User	Case Nk	Nbr SAS Nbr	NP	Suffix	Decant	Distilled Volume	olume	File Id	B		FSuffix RTyp BC H	Ę, I
Batch # / Analyt/ Qc Type CAS#	2.11	Result/ Orig Rst	Ž	Tot/Cnt Uncert 2S	हे ब	MDC	Tracer	Spk Conc/ %Rec	/ Analy Method	Aliq Size/		Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS R LCL/UCL Typ	بر ح ج
8148565 CO-60 BS 10198-40-0	40-0	4.09E+01	pCi/L	7.8E+00 7.8E+00	S	5.07E+00		3.79E+01	GAMMALL_GS 2.0004E+00 06/16/2008	3S 2.0004	E+00 06	13:43			130	۵
10	7	5.72E+01	PCi/L	9.4E+00	4	4.54E+00		4.95E+01	GAMMALL_GS 2.0004E+00 06/16/2008	3S 2.0004	E+00 06	/16/2008			130	۵
10	23-9	9.00E+01	PCI/L	pCi/L 1.7E+01 1.7E+01	•	1.16E+01		7.54E+01	GAMMALL_GS 2.0004E+00 06/16/2008	3S 2.0004	E+00 06	/16/2008			5 5 5	۵

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Monaay, June 30, 2008 FormNbr: R	2008 R	Forma	FormatType: FEAD	T. FEAD	estAı	America QC VersionNbr. 05	a OC	Control	Samp tame: h:	TestAmerica QC Control Sample Report VersionNbr: 05 File Name: h:\Reportdbledd\Fead\V\Rad\W05415.Edd, h:\Reportdbledd\Fead\V\Rad\39422.Edd	-t FeadiWRad\W	05415.Edd,	h:'Report	Lab db\edd\Fe	Lab Code: TARL	ARL 10/39422	Edd
Lab Sample Id: Client Id: Moisture/Solids%*:	Id: KNXG41CS NA Ids%*:	41CS			S E O	Sdg/Rept Matrix: QC Type:	Ü	Sdg/Rept Nbr: W05415 Matrix: WATER QC Type: BS	39422 WATE	39422 WATER	3 % &	Collection Date: 05/18/2008 12:30 Sample On Date: Received Date: 05/19/2008	Date: (Date: ate: ()5/18/2()5/19/2(308 12: 308	30	
SAF Nbr	Contract Nbr MW6-SBB-A19981	981	Test User		Case N	Nbr	SAS Nbr	Suffix		Decamt	Distilled Volume	e mn	E E			FSuffix RTyp BE H	E I
Batch # / Analyt/ Gc Type CAS# 8148566 [-129L BS 15046-84-1	/ Result/ Orig Rat 1.02E+01			Tot/Cnt Uncert 2S 1.2E+00 1.2E+00	å a	MDC 3.74E-01	Tracer Yield 97.1	er Spk Conc/ id %Rec 9.81E+00 103.6	Sond +00	Analy Method I129LL_SEP_	Analy Aliq Date/Time Method Size/ Analyzed 1129LL_SEP_L 3.9831E+00 06/25/2008	Date Anal +00 06/25/		RPD/ UCL	RER	LCL/UCL Typ 70 D	<u>_</u>

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sonday, Ju	Monday, June 30, 2008				estA	merica	8	TestAmerica QC Control Sample Report	Samp	le Repor	T			2	Lab Code: TARL	TARL	
Ē	FormNbr: R	5	rmatTy	FormatType: FEAD	-	VersionNbr: 05	8	File N	ame: h:	File Name: h:\Reportdb\edd\FeadI\NRad\W05415.Edd, h:\Reportdb\edd\FeadI\NRad\39422.Edd	Feadiv	ARad\W0541	5.Edd, h:\Re	portdb/edd	NFeadIM	(ad/3942)	2.Edc
Lab Sa	Lab Sample Id:	KNXG82CS			o a	Sdg/Rept	Nbr:	Sdg/Rept Nbr: W05415	39422 WATE	39422 WATED		Collec	Collection Date: 06/27/2008	. 06/27	/2008		
Moisture/	Moisture/Solids%*:				E Ø	QC Type:		BS		5		Receiv	Received Date: 05/19/2008	05/19	/2008		
SAF Nbr		Contract Nbr MW6-SBB-A19981	12	Test User	Case	ND AG	SAS Nbr	Suffix		Decant	Distil	Distilled Volume		File Id		FSuffix RTyp BG H	€ _
Batch # / Qc Type	Analyt CAS#	Result/ Orig Rst	Z.	Tot/Cnt Uncert 2S	å a	MDC	E 3	Tracer Spk Conc/ Yield %Rec	ouc/	Analy		Aliq Size/	Date/Time Analyzed	RPD/	RER	LCS R LCL/UCL Typ	ಕ
8177555 TC-99	66-5		pCi/g	pCi/g 3.7E-02		1.08E-02	100.0	0 5.46E-01	2	TC99_SEP_LS 1.2501E+02 06/26/2008	LS 1	2501E+02	06/26/2008	•		2	۵
BS 14	14133-76-7			1.3E-02				93.4				Ø	23:57			130	

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Monday,	Monday, June 30, 2008			_	estAmer	ica Q	CCon	trol San	TestAmerica QC Control Sample Report			Lab	Lab Code: TARL	ARL	
S.	FormNbr: R	-	FormatTy	FormatType: FEAD	Versio	VersionNbr: 05	50	File Name	File Name: h:'Reportdb\edd\FeadIV\Rad\W05415.Edd, h:\Reportdb\edd\FeadIV\Rad\39422.Edd	eadIV/Rad/W0541	5.Edd, h:\Repk	ortdb\edd\F	FeadIMR	ad/39422.E	용
Lab	Lab Sample Id:	KNXGW1CS	SS		Sdg/R	Sdg/Rept Nbr: W05415	. W054	10 E 1	39422	Collec	Collection Date: 05/22/2008 10:00	05/22/2	008 10	8	
	Client Id: Moisture/Solids%*:	¥ *•			Matrix: QC Type:	ë	WATER		WATER	Samp	Sample On Date: Received Date:	05/22/2008	8008		
SAF Nbr		Contract Nbr MW6-SBB-A19981	4	Test User	Case Nbr	SAS Nbr	<u>ā</u>	Suffix	Decant	Distilled Volume	Ē	File Id		FSuffix RTyp BI H	e I
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Ş	Tot/Crit Uncert 2S	e G	MDC	Tracer	Spk Conc/ %Rec	Analy	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER UCL	LCS R	۳ ک <u>ر</u>
8148562 PU-239	PU-239	4.57E+00	PCI/L		1.99E-01	E-01 88.1	5	4.66E+00	PUISO PLATE	PUISO_PLATE 2.0028E-01 06/11/2008	06/11/2008			02	_
BS	PU-239/240		250	8.7E-01				6.76			14:25			130	

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U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide. J Qual - No U qualifier has been assigned and the result is below the Reporting Limit (CRDL). B Qual - Analyte was found in the associated laboratory blank above the MDC.

Sample Id: KNH1P2DR Sdg/Rept Nbr: W05415 39422 Collection Date: 06/27/2008 sture/Solids%: ac Type: DUP Received Date: 05/19/2008 Nbr Contract Nbr Test User Case Nbr SAS Nbr Suffix Decant Distilled Volume File Id FSuffix R Analyty Result Tot/Cnt Qu Tracer Spt Cond Analyty Analyzed Uct Uct LCS CAS# Orig Rst Unit Uncert 2s al MDC Yield *Rec Method Size/ Analyzed 4.0 0.9 TC-99 1.36E+00 pcig 8.8E-02 1.07E-02 100.0 TC99_SEP_LS 1.2501E+02 0.09 9.9	Monday	Monday, June 30, 2008	2008				Tes	tAme	rica (2C Dup	licate	TestAmerica QC Duplicate Report					Lab	Lab Code: TARL	ARL	
Sample Id: KNH1P2DR Sdg/Rept Nbr: W05415 39422 Collection Date: 06/27/2008 at Id: B1V8Y9 Matrix: WATER WATER Collection Date: 06/27/2008 sture/Solids%*: QC Type: DUP Received Date: 05/19/2008 Nbr Contract Nbr Test User Case Nbr Sas Nbr Suffix Decant Distilled Volume File id F Analyty Result Tot/Cnt Qu Tracer Spk Conc/ Analy Analyzed Ucl. Ucl. Ucl. TC-99 1.36E+00 pcijg 8.8E-02 1.07E-02 100.0 TC99 SEP LS 1.2501E+02 06/26/2008 4.0 0.9		FormNbr.	œ	For	natType	e: FEAD	>	ersionNb	. 05	€ .	le Name:	h:\Reportdb\ed	d\Fead	VIRad\W05	415.Edd, h	:'Reportd	b\edd\Fe	adiMR	Id\39422	Edd
sture/Solids%*: CC Type: DUP Nbr Contract Nbr Test User Case Nbr SAS Nbr Suffix Decant Distilled Volume File Id F Analyt Result Tot/Cnt Qu- Tracer Spk Conc/ Analy Aliq Date/Time RPD/ RER/ CAS# Onig Rat Unit Uncert 28 al MDC Yield %Rec Method Size/ Analyzed UCL UCL TC-99 1.36E+00 pcl/g 8.8E-02 1.07E-02 100.0 TC99 SEP_LS 1.2501E+02 06/26/2008 4.0 0.9	<u> </u>	Sample		HP2DR			<i>ў</i> ;	lg/Rept	Nbr	W05415	8	422		Colle	ction Da	ate: 0	6/27/20	900		
Nbr Contract Nbr Test User Case Nbr Suffix Decant Distilled Volume File id F MV6-SBB-A19981 Analyt Result Tot/Cnt Qu- Tracer Spk Conc/ Analy Aliq Date/Time RPD/ RERV CAS# Orig Rat Unit Uncert 28 al MDC Yield %Rec Method Size/ Analyzed UCL UCL TC-99 1.36E-No pcilg 8.8E-02 1.07E-02 100.0 TC99_SEP_LS 1.2501E+02 06/26/2008 4.0 0.9	No.	sture/Sol		6			ĕŏ	atrix:		WAIER	\$	AIEK		Rece	ple On I	Date: te: 0	5/19/20	80		
Analyt Result Tot/Cnt Qu- Tracer Spk Conc/ Analy Aliq Date/Time RPD/ RER/ CAS# Orig Rst Unit Uncert 2s al MDC Yield %Rec Method Size/ Analyzed UCL UCL TC-99 1.36E-00 pCi/g 98.8E-02 1.07E-02 100.0 TC99_SEP_LS 1.2501E+02 06/26/2008 4.0 0.9	SAF W08-	.005	Contract Nb MW6-SBB-A1	ır 19981	Tes		Case N		AS Nbr	Sug	¥	Decant	Dist	illed Volum	•	File id			Suffix R	ĒΙ
TC-99 1.36E+00 pClig 8.8E-02 1.07E-02 100.0 TC99_SEP_LS 1.2501E+02 06/26/2008 4.0 0.9	Batch # /					Tot/Cnt Incert 2S	ė ė	MDC	T _a		k Conc/	Analy		Aliq Size/	Date/I Analy			RER/ UCL		ج ع
	8177555				Ci/g 8	.8E-02	c. 9 ±6	1.07E-02		0		TC99_SEP	S	1.2501E+02	2 06/26/2		0.1	6.0		۵

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Monday, June 30, 2008				Te	stAme	rica (TestAmerica QC Duplicate Report	ate	Report			3	Lab Code: TARL	TARL	
FormNbr: R	2	matTy	FormatType: FEAD		VersionNbr. 05	08	FIEN	ame: h:	Reportdbledd\Fe	File Name: h:\Reportdb\edd\FeadIV\Rad\W05415.Edd, h:\Reportdb\edd\FeadIV\Rad\39422.Edd	5.Edd, h:\Repo	ortdb/edd/	FeadIMF	ad\39422	Edd.
Lab Sample id: Client Id: Moisture/Solids%*:	KNHT01CR B1V6H1			w 2 G	Sdg/Rept Nbr: W05415 Matrix: WATER QC Type: DUP	N L	W05415 WATER DUP	39422 WATE	39422 WATER	Collec Samp Receiv	Collection Date: 05/18/2008 12:30 Sample On Date: 05/19/2008	05/18/2	2008 12	:30	
SAF Nbr Cor 108-038 MW6	Contract Nbr MW6-SBB-A19981	<u> </u> 2	Test User	Case	N N N N N N N N N N N N N N N N N N N	SAS Nbr	Suffix	! !	Decant	Distilled Volume		File Id		FSuffix RTyp AS H	E I
Batch # / Analyt/ Qc Type CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	å w	MDC	Tracer	cer Spk Conc/	onc/	Analy	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS R	بر ح ہے
8148566 I-129L DUP 15046-84-1	3.52E-02 p	PCIV	1.5E-01 1.5E-01	כ	2.88E-01	93.2			1129LL_SEP_L	1129LL_SEP_L 3.8888E+00 06/25/2008 L 07:22	06/25/2008	140.3	3.3		۵

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Lab Sample Id: Client Id:	<u> </u>	KNKRQ1DR B1V7M8	S.			Sdg/Rept Nbr: Matrix:	ot Nbr:			39422 WATER		Collec	Collection Date: Sample On Date:		2008 12	54:
SAF Nbr Control S08-005 MW6-S	Cont Cont MW6-	Contract Nbr MW6-SBB-A19981		Test User	S	Case Nbr S	SAS Nbr	3	Suffix	Decant	Sign	Distilled Volume	received Date:	US/ZU/ZU06		FSuffix RTyp
Batch # / Analyt/ Qc Type CAS#	AAR #S	Result/ Orig Rst	Ş	Tot/Cnt Uncert 2S	a &	MDC		Tracer	Spk Conc/	Analy		Aliq Size/	Date/Time Analyzed	RPD/ UCL	RERV	CLUCL
-		-6.95E-01	PCIA	1.7E+01	כ	2.99E+01				GAMMALI	SS	GAMIMALL GS 2.0004E+00 06/16/2008	06/16/2008	0.0	0.1	
B148565 CO-60	-024	3.06E+01	DC/L	1.7E+01 6.3E+00		2.72E+00	8			GAMMAL	gs	GAMMALL GS 2.0004E+00 06/16/2008	17:57	5.8	6 O	
	40-0	2.89E+01								ii	1	_	17:57	20.0	ဗ	
2	4	1.96E+00	PCIL		>	3.99E+00	8			GAMMALI	SS	GAMMALL_GS 2.0004E+00 06/16/2008	06/16/2008	110.0	- ,	
BUP 13967-70-9 8148565 CS-137	-07-	5.69E-01	NO.	1.7F+00	=	3.24E+00	00			GAMMAI	SS	GAMMAII GS 2,0004E+00,06/16/2008	76:71 06/16/2008	20.0	20	
	-97-3	1.01E+00)		3				},	7	17:57	20.0	, e	
8148565 EU-152	2	1.39E+00	PC!/L	4.0E+00)	7.27E+00	00			GAMMALI	જુ	GAMMALL_GS 2.0004E+00 06/16/2008	06/16/2008	1005.8	3 0.8	
DUP 14683-23-9	-53-9	-9.26E-01		4.0E+00								ı	17:57	20.0	ဗ	
-	4	-1.77E+00	PCI/L		-	9.57E+00	90			GAMMALI	GS	GAMMALL_GS 2.0004E+00 06/16/2008	06/16/2008	0.0	0.7	
	-10-1	7.46E-01	į								8	L	17:57	20.0	e (
_	2 7	3.53E+00	2	3.65+00)	6.48E+00	3			GAMINAL	3	GAMINALL GS 2:0004E+00 06/16/2008	27.57	20.0	, ,	
8148565 K-40	2	4.92E+01	PC/L			3.17E+01	10			GAMMALI	S	GAMMALL_GS 2.0004E+00 06/16/2008	06/16/2008	5351.6	3.9	
	-00-2	-4.57E+01	0										17:57	20.0	က	
8148565 RU-106	9	-8.18E+00	PQ N	1.5E+01	D	2.52E+01	è			GAMMALI	SS	GAMMALL_GS 2.0004E+00 06/16/2008	06/16/2008	0.0	0.3	
ıo	2	2.26E+00	PC/L	- 4	>	7.70E+00	8			GAMMALL	SS	GAMMALL GS 2.0004E+00 06/16/2008	06/16/2008	5241.8	3 1.5	
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U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide. J Qual - No U qualifier has been assigned and the result is below the Reporting Limit (CRDL). B Qual - Analyte was found in the associated laboratory blank above the MDC.

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Monday	Monday, June 30, 2008	∞			Te	stAmer	ica Q	TestAmerica QC Duplicate Report	cate	Report			<u> </u>	Lab Code: TARL	TARL	
	FormNbr: R		ormatTy	FormatType: FEAD		VersionNbr: 05	છ		Vame: h:	File Name: h:\Reportdb\edd\FeadIV\Rad\W05415.Edd, h:\Reportdb\edd\FeadIV\Rad\39422.Edd	adIV/Rad/W(3415.Edd, h:'R	portdb/edd	FeadIMR	ad/39422.E	뭐
Cie Gie Noi	Lab Sample Id: Client Id: Moisture/Solids%*:	KNPK11DR B1V297	~		on ≥ G	Sdg/Rept Nbr: W05415 Matrix: WATER QC Type: DUP	V . V	W05415 WATER DUP	39422 WATE	39422 WATER	3 % %	Collection Date: 05/22/2008 10:00 Sample On Date: 05/22/2008	: 05/22/ e: 05/22/	2008 10	8	
SAF Nb S08-004		Contract Nbr MW6-SBB-A19981	F	Test User	Case	Case Nbr SA	SAS Nbr	Suffix		Decant [Distilled Volume		File td		FSuffix RTyp AU H	로 -
Batch # / Qc Type 8148563 DUP	Analyti CAS# 12587-46-1	Result/ Orig Rat 8.37E+00 7.34E+00	unit PCI/L	Tot/Cnt Uncert 2S 2.8E+00 2.1E+00	ਰੇ ਬ	Trace MDC Yiels 1.40E+00 100.0	Tracer Yield 100.0		Spk Cond %Rec	Analy Aliq Method Size/ 9310_ALPHAB 2.001E-01	Aliq Size/ 2.001E-0	Date/Time Analyzed 1 06/16/2008 21:15	8 13.0 20.0	NERV UCL 0.5	LCS R LCL/UCL Typ D	* <u>}</u> _

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Monday. June 30, 2008				Ţ.	stAme	rica (TestAmerica QC Duplicate Report	ate Re	port	ACMINISTRATION OF THE	200		Lab Code: TARL	rari.	3
Lab Sample id: Client id:	KNPK410 B1V298	Z Z	romatiye: read		Sdg/Rept Nbr: W05415 Matrix: WATER	S Light	W05415 WATER	39422 WATER	R	Colle	5 39422 Collection Date: 05/22/2008 10:00 8 WATER Sample On Date:	05/22/2	2008 10	00:	3
SAF Nbr Control S08-004 MW6-S	Contract Nbr MW6-SBB-A19981		Test User	Sec.	No.	AS Nbr	Suffix	Decant		Distilled Volume	מם השופ	File id	1	FSuffix RTyp AV H	ΞI
Batch # / Analy/ Qc Type CAS# 8148564 BETA DUP 12587-47-2	Result/ Orig Rst 6.77E+01 -2 7.02E+01	Unit PCI/L	Tot/Cnt Unit Uncert 28 pCi/L 9.6E+00 3.9E+00	हें ब	MDC 2.70E+00	Tracer Yield 0 100.0	er Spk Conc/		Analy Method 9310_ALPHAB	Aliq Size/ 2.001E-01 L	Date/Time Analyzed 06/16/2008 14:16	RPD/ UCL 3.7	RER UCL 3	LCS R LCL/UCL Typ D	

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Lab Samp Client Id: Moisture/	Lab Sample id: Client Id: Moisture/Solids**:	: KNPKV1CR B1V2B1 is%*:	ικ			SigiRept Nbr: W05415 Matrix: WATER QC Type: DUP	fbr: ^		39422 WATER	Collec Samp Recei	Collection Date: 05/22/2008 10:00 Sample On Date: 05/22/2008	05/22/2008	2008 10	8	
SAF Nbr S08-004		Contract Nbr MW6-SBB-A19981	(a) (b) (c) (c) (c) (c) (c) (c) (c) (c) (c) (c	Test User	Case	Ž.	SAS Nbr	Suffix	Decant	Distilled Volume		Pile Id		FSuffix RTyp AW H	울ェ
	Analyti CAS#	Orig Rst	n S	Tot/Cnt Uncert 2S	- S	MDC 2 08E-01	Tracer Yield	ar Spk Conc/	Method	Aliq Size/	Date/Time Analyzed	RPD/	RERV	LCL/UCL Typ	"f.c
DUP 1 8148562 F	13981-16-3 PU-239/240	, O I W	port.		•	2.98E-01	55.9		PUISO_PLAT	PUISO_PLATE 2.0073E-01 06/11/2008	14:23 06/11/2008 14:23	20.0 8.9 20.0	3 62		۵ ۵

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Monday.	Monday, June 30, 2008	2008			Test	Amerik	3 Oc	TestAmerica Qc Matrix Spike Report	Spike	Report			Ē	Lab Code: TARL	ARL	
	FormNbr: R		ormatTy	FormatType: FEAD		VersionNbr: 05	8	File	lame: h:\	Reportdb/edd/F	File Name: h:'Reportdb/edd/FeadIV/Rad/W05415.Edd, h:'Reportdb/edd/FeadIV/Rad\39422.Edd	415.Edd, h:\Rep	Nontdb/edd/	-eadIMR	ad\39422.E	pp
Lab (Lab Sample Id:	id: KNIH162CW	8		(I)	Sdg/Rept Nbr: W05415	Nbr. v	V05415	39422	и	Colle	Collection Date: 06/27/2008	06/27/2	800		
Clien	Client Id:	B1V8H6			20	Matrix:		WATER	WA	WATER	Sam	Sample On Date: Received Date: 05/19/2008	05/19/2	800		
SAF Nbr		Contract Nbr MW6-SBB-A19981	12	Test User	Case Nbr		NS Nbr	Suffix	0	Decant	Distilled Volume	E .	File Id		FSuffix RTyp	E I
Batch # / Qc Type	Analyt CAS#	/ Result	š	Tot/Cnt Uncert 2S	d a	MDC	Tracer	er Spk Conc/ d %Rec	onc/	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS R LCL/UCL Typ	
8177555	TC-99	3.34E+00	pCi/g	2.1E-01		1.06E-02	100.0	3.61E+00		TC99 SEP L	TC99_SEP_LS 1.2501E+02_06/26/2008	2 06/26/2008			09	۵
SW	14133-76-7	2-5	Pl E	3.2E-02				92.5			O	19:47			140	

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TA Richland Hexavalent Chromium - Water

Analyst:	L. Dinh	inh		Calibration Cu	Calibration Curve Information		SOP Inf	SOP Information	BATCH #	8142640
Start Date:	5/20/2008	2008		Amount	Conc.(mg/L)	ABS.	RICH-V	RICH-WC-5003	SDC#	W05415
Start Time:			Blank	0.000	0000	0.000	Revi	Revision 7	Matrix	Water
End Date:	2/20/2008	2008	Std. 1	0.100	0.050	0.096				
End Time			Std. 2	0.500	0.250	0.483			Instrument Information	ormation
300VA54	•		Std. 3	0.750	0.375	0.717	MDL (mg/L)	0.002	Instrument:	Hach DR2010
Analyst Signature:	ure: - Leun	June	Std. 4	1.500	0.750	1.402			Wavelength:	540
			Std 5	2.000	1.000	1.867	-44-		R Squared	0.99989
Date: 5/	122/02		Standard Volu	me (mL):		100.000			Slope:	1.86277
			Date of Curve:			5/20/2008			Intercept:	0.00796
			Calibration	Calibration Information:	ICV Information:	mation:	1 CS Info	CS Information:	Matrix Spike Information:	Information.
Dilution ID #			8	Cr-08-00099	Cr-08	Cr-08-00100	Cr-08	Cr-08-00099	-80-13	Cr-08-00099
Prep Date:			05/2	05/20/08	05/2	05/20/08	05/50	05/20/08	05/2	05/20/08
Concentration (mg/L	(mg/L)		2	50	r.	50		50	5	50
Expiration Date:	::		05/2	05/21/08	05/2	05/21/08	05/2	05/21/08	05/21/08	1/08
Pipettor(s)			70,	70,190	Ŧ	190	-	190	12	190
Volume Used	Expected Value	d Value			1.000	0.50000	1.00	0.50000	0.50	0.26316
					Expec	Expected values are	only amounts ad	2	not final concentrations	ations
Cl olome?	Client	Time	Sample	Cample ABC	Blonk ABC	Corrected	Dilution		Final Conc.	- C /o
odinpe io		adk i	Volume (mL)	Sample Abs.	DIBITIR ADD.	ABS.	Factor	(mg/L)	(mg/L)	% Hec.
n/a	n/a	ICA	100.000	0.957	0.000	0.957	1	0.5095	0.509	101.90%
n/a	n/a	ICB	100.000	000:0	0000	0.000	1	<mdl< td=""><td><mdl< td=""><td></td></mdl<></td></mdl<>	<mdl< td=""><td></td></mdl<>	
KNMHW1AA	n/a	Prep Blank	100.000	-0.001		-0.001	-	<mdl< td=""><td><mdl< td=""><td></td></mdl<></td></mdl<>	<mdl< td=""><td></td></mdl<>	
KNMHW1AC	n/a	SOT	100.000	0.961	100000000000000000000000000000000000000	0.961	-	0.5116	0.512	102.32%
KNKP11AA	B1V6P7	Sample	100.000	0.068		0.068	1	0.0322	0.032	
KNKP11AC-S	B1V6P7-MS	MS	100.000	0.572		0.572	-	0.3028	0.305 C.J	102.81%
		MSD	100.000	0.574		0.574	-	0.3039	0.364° 3	103.22%
×	B1V6P7'-DUP	Duplicate	100.000	0.069		0.069	1	0.0328	0.033	SYSGANINE
KNKP71AA	B1V6T9'	Sample	100.000	0.250	2002	0.250	1	0.1299	0.130	
			100.000				-			
			100.000				-			
			100.000				-			
n/a	n/a	CCV	100.000	0.958		0.958	-	0.5100	0.510	102.00%
n/a	n/a	SCS	100.000	-0.002		-0.002	-	<mdl< td=""><td><mdl< td=""><td></td></mdl<></td></mdl<>	<mdl< td=""><td></td></mdl<>	
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TA Richland Hexavalent Chromium - Water

7 101.21% Hach DR201 Matrix Spike Information: Cr-08-00103 W05415 1.85096 02.43% 0.99983 101.89% 102.32% 8143553 0.26316 101.83% Water % Rec. 540 Instrument Information Expected values are only amounts added in mg and not final concentrations 05/22/08 05/23/08 190 20 0.509 0.048 0.344 0.0 Final Conc. Wavelength Instrument: (mg/L) R Squared 0.048 0.512 <MDL 0.512 0.048 Intercept: 0.50 <MDL VWD[BATCH# Slope: # 50s Matrix Curve Conc. 0.50000 0.5116 -0.0038 0.5094 0.0475 0.3139 0.3155 0.0480 (mg/L) 0.0480 0.5121 0.002 <MDL SOP Information LCS Information: RICH-WC-5003 Cr-08-00103 Revision 7 05/22/08 05/23/08 190 20 MDL (mg/L) Dilution Factor 1.00 1.847 100.000 5/22/2008 Corrected 0.50000 0.096 0.712 1.406 0.000 0.955 0.951 0.096 0.589 0.592 0.000 ABS. ABS. 0.097 0.097 0.001 ICV Information: Cr-08-00104 05/22/08 190 20 Calibration Curve Information Conc.(mg/L) Blank ABS. 0.000 0.050 0.250 0.375 0.750 1.000 0.000 1.000 0.000 Sample ABS. Calibration Information: Amount 0.100 0.000 0.750 1.500 2.000 0.956 0.000 0.095 0.096 0.589 0.592 0.097 0.955 0.001 0.097 Standard Volume (mL): Cr-08-00103 05/23/08 05/22/08 Volume (mL) Date of Curve: 100.000 100.000 100.000 100.000 100.000 100.000 100.000 100.000 100.000 100.000 Sample 100.000 Std. 3 Std. 4 Std. 1 Std. 2 Std 5 Blank Prep Blank Duplicate Sample Sample MS Type CCB <u>S</u> <u>ડ</u> **Expected Value** 5/22/2008 5/22/2008 L. Dinh 5:30 1:45 Analyst Signature: Frend Jul B1V295'-MS B1V295'-MSD B1V295'-DUP Client ID n/a n/a n/a n/a n/a n/a B1V294 B1V293 512368 Concentration (mg/L) Expiration Date: Pipettor(s) Volume Used (KNPKL1AC-S KNPKL1AD-D K KNPKL1AE-X KNPKN1AA Sample ID Dilution ID # **KNPKP1AA CNPKL1AA** Start Time: KNP811AC KNP811AA Start Date: Prep Date: End Time End Date: n/a n/a n/a n/a Analyst:

Data Review/Verification Checklist RADIOCHEMISTRY, First Level Review

6/12/2008 11:38:18 AM

Lot No., Due Date:

J8E220262; 07/07/2008

Client, Site:

384868; PGW 615HANFORD HANFORD

QC Batch No., Method Test: 8148562; RPUISO Pulso by ALP

SDG Matrix

WASAIS WATER

SD	G, Matrix: W05415; W	ATER			
	COC Is the ICOC page complete; includes all ap	plicable analysis, dates, SOP numbers, and revisions?	Yes	No	N/A
2.0 2.1	QC Batch Do the Summary/Detailed Reports include a	a calculated result for each sample listed on the QC Batch Sheet?	Yeş	No	N/A
2.2	Are the QC appropriate for the analysis incl	uded in the batch?	Yes	No	N/A
2.3	is the Analytical Batch Worksheet complete	; includes as appropriate, volumes, count times, etc?	Yes	No	N/A
2.4	Does the Worksheets include a Tracer Vial	label for each sample?	Yes	No	N/A
	QC & Samples Is the blank results, yield, and MDA within o	ontract limits?	Yes	No	N/A
3.2	Is the LCS result, yield, and MDA within cor	ntract limits?	Yes	No	N/A
3.3	Are the MS/MSD results, yields, and MDA v	vithin contract limits?	Yes	No	N/A
3.4	Are the duplicate result, yields, and MDAs v	within contract limits?	Yes	No	N/A
3.5	Are the sample yields and MDAs within con	tract limits?	Yes	No	N/A
	Raw Data Were results calculated in the correct units?		Yeş	No	N/A
4.2	Were analysis volumes entered correctly?		Yes	No	N/A
4.3	Were Yields entered correctly?		Yes	No	N/A
1.4	Were spectra reviewed/meet contractual re-	quirements?	Yes	No	N/A
4.5	Were raw counts reviewed for anomalies?		Yes	No	N/A
	Other Are all nonconformances included and note	d?	Yes	No	N/A
5.2	Are all required forms filled out?		Yes	No	N/A
5.3	Was the correct methodology used?		Yes	No	N/A
5.4	Was transcription checked?		Yes	No	N/A
5.5	Were all calculations checked at a minimum	frequency?	Yes	No	N/A
.6	Are worksheet entries complete and correct	1?	Yes	No	N/A

6.0 Comments on any No response:

QAS_RADCALCV4.8.33 TESTAMERICA

TAL Richland

First Level Review John Mortan

Date _ 6 -12 - 8

Page 1



Data Review Checklist RADIOCHEMISTRY Second Level Review

Batch Number: 8148562	Batch Number:	8148562
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LS-038B, Rev. 10, 9/07

Data Review/Verification Checklist RADIOCHEMISTRY, First Level Review

6/18/2008 3:34:51 PM

Lot No., Due Date:

J8E220262: 07/07/2008

Client, Site:

384868: PGW 615HANFORD HANFORD

QC Batch No., Method Test: 8148563; RALPHA-A Alpha by GPC-Am

SDG, Matrix:

W05415: WATER

0.	C	

1.1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions?

No N/A

2.0 QC Batch

2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?

No N/A

2.2 Are the QC appropriate for the analysis included in the batch?

No N/A

2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc?

Yeş No N/A

2.4 Does the Worksheets include a Tracer Vial label for each sample?

Yes No N/A

3.0 QC & Samples

3.1 Is the blank results, yield, and MDA within contract limits?

No N/A

3.2 Is the LCS result, yield, and MDA within contract limits?

No N/A

3.3 Are the MS/MSD results, yields, and MDA within contract limits?

Yes No N/A

3.4 Are the duplicate result, yields, and MDAs within contract limits?

Yes No N/A

3.5 Are the sample yields and MDAs within contract limits?

Yeş No N/A

4.0 Raw Data

5.0 Other

4.1 Were results calculated in the correct units?

No N/A

4.2 Were analysis volumes entered correctly?

No N/A Yeş Yes No N/A

4.3 Were Yields entered correctly?

Yes No N/A

4.4 Were spectra reviewed/meet contractual requirements?

Yes No N/A

4.5 Were raw counts reviewed for anomalies?

5.1 Are all nonconformances included and noted?

Yes No N/A Yes No N/A

5.2 Are all required forms filled out?

Yes No N/A

5.3 Was the correct methodology used?

Yes No N/A

5.4 Was transcription checked?

Yes No N/A

5.6 Are worksheet entries complete and correct?

5.5 Were all calculations checked at a minimum frequency?

No N/A

6.0 Comments on any No response:

First Level Review

TAL Richland QAS_RADCALCv4.8.33 TESTAMERICA

Date 6-18.8

Page 1



Data Review Checklist RADIOCHEMISTRY

Second Level Review

Batch Number:	81485103

	Yes (√)	No (√)	NA (
A. Sample Analysis			1
. Are the sample yields within acceptance criteria?			
. Is the sample Minimum Detectable Activity < the Contract			
Detection Limit?	V/		
. Are the correct isotopes reported?			
3. QC Samples . Is the Minimum Detectable Activity for the blank result ≤the Contract Detection Limit?	\ \frac{\frac{1}{2}}{2}		
. Does the blank result meet the Contract criteria?	./		
. Is the blank result < the Contract Detection Limit?	7		7 O R- N
. Is the blank result > the Contract Detection Limit but the ample result < the Contract Detection Limit?	1		
. Is the LCS recovery within contract acceptance criteria?	\/.		
. Is the LCS Minimum Detectable Activity ≤the Contract Detection Limit?	J		/
. Do the MS/MSD results and yields meet acceptance criteria?			V
. Do the duplicate sample results and yields meet acceptance riteria?			,
C. Other			
. Are all Non-conformances included and noted?			V
. Are all required forms filled out?	V		
. Was the correct methodology used?	-		
. Was transcription checked?	-/-		
. Were all calculations checked at a minimum frequency?			
. Were units checked?		2	

LS-038B, Rev. 10, 9/07

Data Review/Verification Checklist RADIOCHEMISTRY, First Level Review

6/18/2008 3:33:49 PM

Lot No., Due Date:

J8E220262: 07/07/2008

Client, Site:

384868; PGW 615HANFORD HANFORD

QC Batch No., Method Test: 8148564; RBETA-SR Beta by GPC-Sr/Y

SDG, Matrix:

W05415; WATER

	300		-
•	\mathbf{r}	COC	
	.0	LUL	

1.1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions?

Yes No N/A

2.0 QC Batch
 2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?

No N/A

2.2 Are the QC appropriate for the analysis included in the batch?

No N/A

2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc?

Yeş No N/A

2.4 Does the Worksheets include a Tracer Vial label for each sample?

Yes No N/A

3.0 QC & Samples
3.1 Is the blank results, yield, and MDA within contract limits?

Yes No N/A

3.2 Is the LCS result, yield, and MDA within contract limits?

Yes No N/A

3.3 Are the MS/MSD results, yields, and MDA within contract limits?

Yes No N/A

3.4 Are the duplicate result, yields, and MDAs within contract limits?

No N/A

3.5 Are the sample yields and MDAs within contract limits?

Yeş No N/A

4.0 Raw Data
4.1 Were results calculated in the correct units?

Yes No N/A

4.2 Were analysis volumes entered correctly?

Yes No N/A

4.3 Were Yields entered correctly?

Yes No N/A

4.4 Were spectra reviewed/meet contractual requirements?

Yes No N/A Yes No N/A

4.5 Were raw counts reviewed for anomalies?

Yes No N/A

5.0 Other 5.1 Are all nonconformances included and noted?

Yes No N/A

5.2 Are all required forms filled out? 5.3 Was the correct methodology used?

Yes No N/A

5.4 Was transcription checked?

Yes No N/A Yes No N/A

5.5 Were all calculations checked at a minimum frequency?

Yes No N/A

5.6 Are worksheet entries complete and correct?

6.0 Comments on any No response:

First Level Review

DAS_RADCALCV4.8.36 ESTAMERICA

Al Richland

Date _ 6-18-3

Page 1

1/6st



Data Review Checklist RADIOCHEMISTRY Second Level Review

Batch Number: 8148564

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- J		. Were units checked?	7		
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LS-038B, Rev. 10, 9/07

Data Review/Verification Checklist RADIOCHEMISTRY, First Level Review

6/19/2008 2:34:36 PM

Lot No., Due Date:

J8E200211,J8E210172; 07/07/2008

Client, Site:

384868; PGW 615HANFORD HANFORD

QC Batch No., Method Test: 8148565; RGAMMA Gamma by GER

SDG, Matrix:

W05415; WATER

14	•		$\boldsymbol{\smallfrown}$	~
11	·U	C	v	u

1.1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions?

Yes No N/A

2.0 QC Batch

2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?

Yes No N/A

2.2 Are the QC appropriate for the analysis included in the batch?

Yeş No N/A

2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc?

Yes No N/A

2.4 Does the Worksheets include a Tracer Vial label for each sample?

Yes No N/A

3.0 QC & Samples

3.1 Is the blank results, yield, and MDA within contract limits?

Yes No N/A

3.2 Is the LCS result, yield, and MDA within contract limits?

Yes No N/A

3.3 Are the MS/MSD results, yields, and MDA within contract limits?

Yes No N/A

3.4 Are the duplicate result, yields, and MDAs within contract limits?

Yes No N/A

3.5 Are the sample yields and MDAs within contract limits?

Yes No N/A

4.0 Raw Data

4.1 Were results calculated in the correct units?

Yes No N/A

4.2 Were analysis volumes entered correctly?

Yes No N/A

4.3 Were Yields entered correctly?

Yes No N/A Yes No N/A

4.4 Were spectra reviewed/meet contractual requirements?

Yes No N/A

4.5 Were raw counts reviewed for anomalies?

Yes No N/A

5.0 Other 5.1 Are all nonconformances included and noted?

> Yes No N/A Yes No N/A

5.2 Are all required forms filled out?

5.4 Was transcription checked?

Yes No N/A

5.3 Was the correct methodology used?

Yes No N/A

5.5 Were all calculations checked at a minimum frequency?

Yes No N/A

5.6 Are worksheet entries complete and correct?

6.0 Comments on any No response:

Sample j8e200211-1 was re-counted on a different detector to provide a duplicate sample.

First Level Review 2016

TAL Richland OAS RADCALCV4.8:33 TESTAMERICA

Date 6-19-8



Data Review Checklist RADIOCHEMISTRY Second Level Review

	4	1,140,0
Batch Number: _	0	140565

Review Item	Yes (√)	No (√)	NA (√)
A. Sample Analysis			1/
Are the sample yields within acceptance criteria?			
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	1/		
3. Are the correct isotopes reported?			
 B. QC Samples 1. Is the Minimum Detectable Activity for the blank result ≤the Contract Detection Limit? 	1,		
2. Does the blank result meet the Contract criteria?	J,		
3. Is the blank result < the Contract Detection Limit?			,
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?	,	2 800	
5. Is the LCS recovery within contract acceptance criteria?	1		
6. Is the LCS Minimum Detectable Activity ≤the Contract Detection Limit?	7		/
7. Do the MS/MSD results and yields meet acceptance criteria?			
8. Do the duplicate sample results and yields meet acceptance criteria?			
C. Other 1. Are all Non-conformances included and noted?	1		
2. Are all required forms filled out?	1		
3. Was the correct methodology used?	1		
4. Was transcription checked?	J,		
5. Were all calculations checked at a minimum frequency?	1		
6. Were units checked?		3.91	

Comments on any "No" response: a duf. Semple is les act us duf.	Insufficient y	dune to	sour ux
to act as dup.			
Second Level Review: Euch	Drd	Date: L	1/20/4

LS-038B, Rev. 10, 9/07

Data Review/Verification Checklist RADIOCHEMISTRY, First Level Review

6/26/2008 3:29:56 PM

Lot No., Due Date:

J8E200207.J8E200211,J8E200194,J8E210164,J8E210172; 07/07/2008

Client, Site:

384868: PGW 615HANFORD HANFORD

QC Batch No., Method Test: 8148566; RGAMLEPS Gamma by LEPS

SDG, Matrix:

W05415; WATER

-	~	0.5	-
n.	0.	CC	ю

1.1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions?

Yes No N/A

2.0 QC Batch
 2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?

No N/A

2.2 Are the QC appropriate for the analysis included in the batch?

Yeş No N/A

2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc?

Yeş No N/A

2.4 Does the Worksheets include a Tracer Vial label for each sample?

No N/A

3.0 QC & Samples

3.1 Is the blank results, yield, anc MDA within contract limits?

No N/A

3.2 Is the LCS result, yield, and MDA within contract limits?

No N/A

3.3 Are the MS/MSD results, yields, and MDA within contract limits?

Yes No N/A

3.4 Are the duclicate result, yields, and MDAs within contract limits?

No N/A

3.5 Are the sample yields and MDAs within contract limits?

No N/A

4.0 Raw Data

5.0 Other

4.1 Were results calculated in the correct units?

No N/A

4.2 Were analysis volumes entered correctly?

Yeş No N/A

No N/A

Yeş

4.3 Were Yields entered correctly?

Yeş No N/A

4.4 Were spectra reviewed/meet contractual requirements?

No N/A Yeş

4.5 Were raw counts reviewed for anomalies?

5.1 Are all nonconformances included and noted?

Yes No N/A No N/A

5.2 Are all required forms filled out?

Yeş No N/A

5.3 Was the correct methodology used?

No N/A Yeş

5.4 Was transcription checked?

N/A Yes No

5.5 Were all calculations checked at a minimum frequency?

forte

No N/A

5.6 Are worksheet entries complete and correct?

6.0 Comments on any No response:

First Level Review

QAS_RADCALCV4.8.33 ESTAMERICA

Date 6.26.8

Page 1



Data Review Checklist RADIOCHEMISTRY Second Level Review

	Yes (√)	No (√)	NA (√)
A. Sample Analysis		Autoritation in the second	1
Are the sample yields within acceptance criteria?	/		~
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	J .		
3. Are the correct isotopes reported?	1/		
B. QC Samples			
1. Is the Minimum Detectable Activity for the blank result ≤the Contract Detection Limit?	1		
2. Does the blank result meet the Contract criteria?	1		
3. Is the blank result < the Contract Detection Limit?	1		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?	1		
5. Is the LCS recovery within contract acceptance criteria?	V.		
6. Is the LCS Minimum Detectable Activity ≤the Contract Detection Limit?			/
7. Do the MS/MSD results and yields meet acceptance criteria?	,		
B. Do the duplicate sample results and yields meet acceptance criteria?			,
C. Other			. /
Are all Non-conformances included and noted?	/		
2. Are all required forms filled out?	V/		
3. Was the correct methodology used?	J		
4. Was transcription checked?			
5. Were all calculations checked at a minimum frequency?			
6. Were units checked?			

LS-038B, Rev. 10, 9/07

<u>TestAmerica</u>

Data Review/Verification Checklist RADIOCHEMISTRY, First Level Review

6/30/2008 12:08:44 PM

Page 1

Lot No., Due Date:

J8E200211; 07/07/2008

Client, Site:

384868; PGW 615HANFORD HANFORD

QC Batch No., Method Test: 8177555; RTC99 Tc-99 by LSC

SDG, Matrix:

AL Richland

W05415; WATER

3.0 Correction Calculation Protocol Used.	Yes No N/A
OK 3.01 The Appropriate Methods Were Used To Analyze the Samples	Yes No N/A
OK	9 10 10
3.02 Final Results Are in the Appropriate Activity Units	Yes No N/A
OK	V
3.03 Batch Contains the Required QC Appropriate for the Method	Yes No N/A
OK	
3.04 The Correct Tracer and QC Vials Where Used in the Samples	Yes No N/A
OK	Year No N//
3.05 Sample was Appropriately Traced Before or After Fractionating the Sample OK	Yes No N/A
3.06 At Least the Minimum Sample Volume Was Used	Yes No N/A
OK	V
3.07 The Correct Count Geometry was Used.	Yes No N/A
OK	V
3.08 The Sample was Counted for the Minimum Count Time or CRDL was Achieved.	Yes No N/A
OK	Year No. N//
109 Method Blank is within Control Limits.	Yes No N/A
OK 3.1 Comments:	~
B.11 Matrix Blank is within Control Limits.	Yes No N/
No Matrix Blanks (MBlks) found in Batch!	
B.12 Method Blank(s) < QAS Limit Value (No B Flag Necessary).	Yes No N/A
OK	Yea No N/A
B.13 QAS Specified Duplicate Equation Value within Control Limits. OK (RPD)	Yes No N/A
B.14 LCS within Control Limits.	Yes No N/A
OK	
8.15 MLCS within Control Limits.	Yes No N/
No Matrix Spikes (MLCS) found in Batch!	
B.16 MS within Control Limits.	Yes No N/A
OK	Yes No N/A
8.17 Tracer within Control Limits. No Tracers found in Batch!	res no ly
3.18 Samples are above Minimum Tracer Yield (No Failed Samples)	Yes No N/A
No Tracers found in Batch!	~
3.19 Sample Specific MDC <= CRDL.	Yes No N/A
OK	•
B.2 Comments:	
B.21 Result < Lc, Activity Not Detected, U Flag.	Yes No N/A
No Limit Specified!	
B.22 Result < Mdc, Activity Not Detected, U Flag.	Yey No N/A
No Positive Results	~
OK Calc_IDL Not Calculated	Year No. N/
3.23 Result <= Action Level, when Defined. OK; No Action Level Found => TC-99	Yea No N/A
OK; No Callin Level Found => TC-99	8
B.24 Result + 3s >=0, Not Too Negative.	Yes No N/A
OK	y
8.25 Counting Spectrum are within FWHM Limits.	Yes No N/
No FWHM found in Batch Data!	▼

8.26 Instruments have Current Calibrations.	Yes	No	N/A
	Yes		
No Count Library found in Batch Data! 8.28 Instrument Background within Limits at Time of Counting. (Not Applicable to this version. To be developed in later version.)			V
8.29 Instrument Check Source within Limits at the Time of Counting. (Not Applicable to this version. To be developed in later vi			
10-1231	Yes	No	N/A

First Level Review

QAS_RADCALCv4.8.33 TESTAMERICA

Clouseau Nonconformance Memo



NCM #: 10-12593

NCM Initiated By: Lisa Antonson

Date Opened: 06/30/2008

Date Closed:

Classification: Anomaly

Status: QAREVIEW

Production Area: Environmental - Sep

Tests: Tc-99 by LSC

Lot #'s (Sample #'s): J8E200211 (1,3,4,5),

J8E270000 (567),

QC Batches: 8177555.

Nonconformance: Other (describe in detail) Subcategory: Other (explanation required)

Problem Description / Root Cause

Name

Lisa Antonson

Date 06/30/2008

<u>Description</u>
The Instument blank in this Tc99 batch was out of limits on the original count. The

samples were shaken well and all recounted. The TSIE was within limits and able to

be calc'd.

Corrective Action

Name Lisa Antonson **Date**

06/30/2008

Corrective Action
The samples were recounted.

Client Notification Summary

Client

Project Manager

Notified

Response How Notified

Note

Response

Response Note

Quality Assurance Verification

Verified By

Due Date

This section not yet completed by QA.

Notes

Approval History

Date Approved

Approved By

Position

Date Printed: 6/30/2008



Richland Laboratory Data Review Check List Hexavalent Chromium

Batch Number(s): 8142640				
Lab Sample Numbers or CCG 5 415			رحب	/·7
Method/fest/Parameter: Cr+6 in Water / RICH-WC-5003		_		
Review Item	Yes (✓)	No (✔)	N/A (✔)	2 nd Level Review (✓)
A. Initial Calibration	1			
Performed at required frequency with required number of levels?	-			-
2. Correlation coefficient within QC limits?	1			
3. Initial calibration verification (ICV) analyzed immediately after calibration and results within QC limits?	1			/
4. Initial calibration blank (ICB) analyzed immediately after ICV and concentrations of all parameters ≤ reporting limit?	1			/
B. Continuing Calibration	1			
CCV analyzed at required frequency and all parameters within QC limits?				
2. CCB analyzed at required frequency and all results ≤ reporting limit?	1			/
C. Sample Analysis 1. Were any samples with concentrations above the linear range for any parameter diluted and reanalyzed?	~			/
2. Were all sample holding times met?	1			/
D. QC Samples 1. All results for the preparation blank below limits?	1			-
2. MS or MS/MSD recoveries within QC limits and %RPD (for MSD) acceptable?	1			/
3. LCS percent recovery within QC limits and %RPD (for LCSD) acceptable?	1		111	/
4. Analytical spikes within QC limits where applicable?			✓	/
5. ICP only: One serial dilution performed per SDG?			✓	/
6. ICP only: CRDL standard (CRI or CRA) analyzed at required frequency?			1	/
7. ICP only: Interference check samples (ICSA, ICSAB) and HICAL analyzed at the required frequencies and within QC limits?			1	/

Review Item	Yes . (✔)	No (✓)	N/A (✓)	2 nd Level Review (✔)
E. Other	'			
Are all nonconformances included and noted?				
2. Is the correct date and time of analysis shown?	✓			/
3. Did the analyst sign and date the front page of the analytical run?	1			
Correct methodology used?	1			-
5. Transcriptions checked?	✓			/
6. Calculations checked at minimum frequency?	✓			-
7. Units checked?	1			/

ilyst:	Date: <u>5/22/08</u>
ond-Level Review: Sandry Seger	Date: 6/30/08



Richland Laboratory Data Review Check List Hexavalent Chromium

E1420W

Batch Number(s): 8143553				
Lab Sample Numbers or JRE2203(c2		lue.	7/7	
Method/Test/Parameter: Cr+6 in Water / RICH-WC-5003		-		
Review Item	Yes (✓)	No (✓)	N/A (✓)	2 nd Level Review (✓)
A. Initial Calibration	/			
Performed at required frequency with required number of levels?				
2. Correlation coefficient within QC limits?	1			_
3. Initial calibration verification (ICV) analyzed immediately after calibration and results within QC limits?	1			_
4. Initial calibration blank (ICB) analyzed immediately after ICV and concentrations of all parameters ≤ reporting limit?	1			_
B. Continuing Calibration	1			
1. CCV analyzed at required frequency and all parameters within QC limits?				
2. CCB analyzed at required frequency and all results ≤ reporting limit?	1			_
C. Sample Analysis 1. Were any samples with concentrations above the linear range for any parameter diluted and reanalyzed?				1
2. Were all sample holding times met?	1			_
D. QC Samples 1. All results for the preparation blank below limits?	1			_
2. MS or MS/MSD recoveries within QC limits and %RPD (for MSD) acceptable?	1			_
3. LCS percent recovery within QC limits and %RPD (for LCSD) acceptable?	1			_
Analytical spikes within QC limits where applicable?			1	-
5. ICP only: One serial dilution performed per SDG?			1	/
6. ICP only: CRDL standard (CRI or CRA) analyzed at required frequency?			1	/
7. ICP only: Interference check samples (ICSA, ICSAB) and HICAL analyzed at the required frequencies and within QC limits?			1	/

Review Item	Yes (✓)	No (✓)	N/A (✓)	2 ^{ml} Level Review (✓)
E. Other	1			
Are all nonconformances included and noted?				-
2. Is the correct date and time of analysis shown?	1			1
3. Did the analyst sign and date the front page of the analytical run?	/			· -
Correct methodology used?	1			
5. Transcriptions checked?	1			1
6. Calculations checked at minimum frequency?	✓			
7. Units checked?	1			

Comments on any "No" response:	
Analyst: Louis Dil	Date: <u>5/23/08</u>
Second-Level Review: Jodel Co	Date: 5/23/08

	OGCAN							C.O.C. #
S FLOOR HAINFORD	NFORD				CHAIN OF (CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	EQUEST	108-038-33
TAI				. 7	78F20019	77 aio5415 Aux 0	`~	Page 1 of 1
Collector	Scott E. Hamaker	ker			Contact/Requester		Telephone No. MSIN 509-1771-5869	FAX
HSAF No.	21			ļ	Sampling Origin Hanford Site		Purchase Order/Charge Code	
1					HN	-N-506-1302 85	Ace Chest No - 105 - 008	Temp.
Shinned To (Lab)	or Property Rich	blond			Method of Shipment		Bill of Lading/Air Bill No.	
Protocol			2			Priority: 45 Days	Offsite Property No.	
POSSIBLE SAMPLE HAZARDS/REMARKS	LE HAZAR	DS/REA	IARKS			SPECIAL INSTRUCTIONS Hold Time 200 Area Generator Knowledge Information Form applies.		Total Activity Exemption: Yes 🗾 No
Sample No.	Lab ID	•	Date	Time	No/Type Container	Sample Analysis		Preservative
B1V6H1		_	80/181/5	1230	1x20-mL P	Activity Scan	None	
B1V6H1		>	5/19/18	(230	2x4000-mL G/P	1129LL_SEP_LEPS_GS_LL: F-129 (1)	None	
						KWHTC		
50								
Relinquished By	Pring		Sign		me	Received By Sign	Date/Time	Matrix *
Scott E. Hamaker	Z z	ME	Homolo	3	8	the Har	# # % B	oil DS = Drum Solid
K. B. Huke	H	6	In the	5/19	1/08 1345	ResiGNE TAL	¥ is 8	
Relinquished By					Date/Time	Received By	h H	ii V - Vesetation
Relinquished By					Date/Time	Received By	Date/Time	
FINAL SAMPLE		Method (c.g., Return to	customer, per	Disposal Method (c.g., Return to customer, per lab procedure, used in process)	cess) Disposed By		Date/Time
MICH COLUMN	-							

				~	TEL 2011GU LINEALS A. MANSON	77 77		メンジング	å	100
				')		CL-02113	8	ALC: 67 63 60	1	Page 1 of 1
elector South	Scott E. Hamaker	*			Contact/Reque	lequester		Telephone No. 509-373-5869	MSIN	FAX
F No.					Sampling Origin	Origin 1 Site		Purchase Order/Charge Code	harge Code	
oject Title					H.	HNF-N-506-13	13 00 85	Ice Chest No. 113-00 8	S-008 Temp.	.
inned To (Lah) Test America Incornected Richland	annuated R	chland			Method of Ships	Method of Shipment Govt Vehicle	01	Bill of Lading/Air Bill No.	Bill No.	
otocol					778777	Priority:	ity: 45 Days	Offsite Property No.	0	į.
O'SCHEINE, SAMPI, E. HAZARDS/REMARKS 1. ** Contains Radionative Material at concentrations leasable per DOE Order \$400.5 (1990/1993)	I.F. HAZAR floactive Mater der 5400.5 (19	LDS/R rial at cx 190/1997	EMARKS uncentrations that	are not regul	NEBRATOR AND I.E. HAZARDS/REMARKS - ** Contains Radionctive Material at concentrations that are not regulated for transportation per 49 CFR but are not easable per DOE Order \$400.5 (1990/1993)	<i>a</i>	SPECIAL INSTRUCTIONS Hold Time 200 Area Generator Knowledge Information Form applies.	Hold Time formation Form applies.	Total Activity Exc	Total Activity Exemption: Yes 🗹 No
Sample No.	LabID	*	Date	Time	No/Type Container		Sample Analysis	nalysis		Preservative
B1V6B7		3	80/81/5	1405	1x20-mL P	Activity Scan			None	•
B1V6B7		>	-	1405	2x4000-mL G/P	1129LL_SEP_LEPS_GS_LL: 1-129 (1)	GS_LL: 1-129 (1)	Z	None	
		-						XMMXE		
									51	6
		\vdash								
		-								
		H								
		+							U	
		++								
		+								
Relinquished By Scott E. Hamaiker	Print naker	" Z	OHH HA	wolfe	Date/Time /200	Received By K. B. Huine	Print Sign	Date/Time 5/19/08 1200	v.	Matrix •
Relinquished By K. B. Hulse	K	512	thelese	·	1		WE TAL	/ /' DateTime S (908 1345	SF = Sedimen SO = Solid St. = Shudoe W = Water	ent DI. = Drum Linui T = Tissue W1 = Wine I. = Linuid
Relinquished By					Date/Fime	Received By		Date/Time	 C∢	* * *
Relinquished By					Date/Time	Received By		Date/Time		
			500	12000						



Date	e/Time Received: 5(108 1345	GM Screen R	Result O. IK
Clie	nt: PAW	SDG #: <u>LU05</u>		#: IO8-038 NA[]
	rk Order Number:			T08-038-35,-7
Ship	pping Container ID:		Air Bill #	
L	Custody Seals on shipping	container intact?	NA[] Yes	No[]
2.	Custody Seals dated and sig	gned?	NA[] Yes	No []
3.	Chain of Custody record pr	esent?	NA[] Yes	No[]
4.	Cooler Temperature:	NA V S	Vermiculite/packing mate	erials is NA [Wet [] Dry [
6.	Number of samples in shipp	oing container: _ Z		
7.	Sample holding times exceed	eded?	NA Yes []	No []
3	Samples have: Tape Custody Seals			Lables priate Sample Lables
9.	Samples are: In Good Conditi Broken	on	Leaking Have A (Only for samples	g hir Bubbles requiring no head space.)
10.	Sample pH taken? NA []	pH<2[] pH>2[/	pH>9[] Amount H	NO ₃ Added
11.	Sample Location, Sample C *For documentation only. 1			
12.	Were any anomalies identifi	ied in sample receipt?	Yes [] ?	Noll
13.	Description of anomalies (in	nclude sample numbers):		
Sam	ple Custodian:	De-		Date: 5/908
	Client Sample ID	Analysis Requested	Condition	Comments/Action
Clien	t Informed on	by	Person Contac	cted
[]	lo action necessary; process a	s is.		
Proje	ct Manager		Date	

FLUOR HANFORD	FORD				CHAINOF	CHSTODY/SAMPLE ANALYSIS BEOLIEST	Co.C.# 108-037-22
					786200207	07 WOS415 Due 67.63.08	.08 Page 1 of 1
Collector	Mit Amotd				Contact/Requester		MSIN FAX
SAF No.					Sampling Origin		r/Charge Code
Project Title					1	F - N - 506- 12	Ice Chest No. 6WS - 00 8 Temp.
Shinned To (Lab)	doid Dist	- Fred			Method of	Method of Shipment Bill of Lading/Air Bill No.	Air Bill No.
Protocol cure.	DOKALCH LAND			T HANDSON TO THE PARTY OF		Priority: 45 Days	v No.
NUKY POSSIBLE SAMPLE HAZARDS/REMARKS *** ** Contains Radioactive Material at concentration releasable per DOE Order 5400.5 (1990/1993)	E HAZARD active Material r 5400.5 (1990	S/REN d at conc N1993)	(ARKS entrations that	are not regula	NUKY PONSIBLE, SAMPLE HAZARDS/REMARKS *** *** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not eleasable per DOE Order 5400.5 (1990/1993)		Total Activity Exemption: Yes M No
Sample No.	Lab ID	•	Date	Time	No/Type Container	Sample Analysis	Prescruative
B1V669		3	3/18/06	0511	1x20-mL P	Activity Scan	None
B1V669		3	÷	>	2x4000-mL G/P	1129LL_SEP_LEPS_GS_LL: F129 (1)	None
18						791110	
	300	1				KWILL	
					1000		
Relinquishe	Print		than a	100	Date/Time 1200	K. B. Hulso Sign Date!	Matrix Matrix
Relinquished By K. B. Hulse	1/2	1 4	1/2 Car) "	Jane/Time	Reproduct By	SS = Sediment DI. = SO = Solid T = Solid T = Solid T = Solidor WI = Solidor
Relinquished By		3			Date/Time	Rockwed By	X X X
Relinquished By	40.	E/g			Date/Time	Received By Date/Time	
FINAL SAMPLE	Disposal A	Method (e.g., Return to	customer, pe	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	ocess) Disposed By	Date/Time
Charles Contract							

FLUOR HANFORD	FORD				TO THE PARTY OF		The state of the s		IO8_037_21
•					CHAIN OF	CUSIODY	CHAIN OF CUSTODY/SAMPLE ANALYSIS KEQUEST	SIS KECOESI	7-100-001
					TEF 20020	67	W05415	308	Page 1 of 1
ollector FIM	FIM Armold	1			Contact/Requester	equester		Telephone No. M.	MSIN FAX
AF No.					Sampling Origin Hanford Site	Origin		Purchase Order/Charge Code	
roject Title					###	Z	21-905	lee Chest No 1999-00 8	5 Temp.
Ninned To (Lab)	oid betare	buold.			Method of Shipment	Shipment	1.18.30 ADVISORAL	Bill of Lading/Air Bill No.	
rotocol							Priority: 45 Days	Offsite Property No.	
octano de la considera de la considera de considera de considera de la considera del considera de la considera	E HAZARI active Materi r 5400.5 (199	DS/RES	MARKS centrations that a	are not regulat	OSSIBLE SAMPLE HAZARDS/REMARKS Soliains Radioacive Material at concentrations that are not regulated for transportation per 4/4 leasable per DOE Order 5400.5 (1990/1993)	49 CFR but are not	SPECIAL INSTRUCTIONS Hold Time 200 Area Generator Knowledge Information Form applies.		Total Activity Exemption: Yes 🗹 No
Sample No.	CI qar]	•	Date	Time	No/Type Container		Sample Analysis	ılysis	Preservative
B1V668		3	3/8//	1140	1x20-mL P	Activity Scan	The state of the s		The state of the s
B1V668		≥	7	7	2x4000-mL G/P	1129LL_SEP_LE	1129LL_SEP_LEPS_GS_LL: 1-129 (1)	None	
								KNHOK	
Relinquished By FIM Armold	Print	7	Charles Charles	100	Date/Fime S/15/68 /200	Received Hube	Print Sign	Date/Time S -19-68 (200	Matrix *
Religanished Blo	H	X	of	8/-12	-19-08 12-FS	A CO	WANE 1A		Sediment DI - Salid
Relinquished By					1 #	Rec ved By			I Oil
Relinquished By		N			Date/Time	Received By		Date/Time	
FINAL SAMPLE	Disposal	Method	c.g., Return to c	customer, per	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Less)	Disposed By		Date/Time
Prot Courses									



Date	/Time Received: _5 [908 1345	GM Screen	Result 0,1K
Clier	DE PGW	SDG#: W054	//5 NA[] SAI	F#: TO8-037 NA[]
	k Order Number:	and the second s		IO8-037-22,-21
Ship	ping Container ID:			
L	Custody Seals on shipping	container intact?	NA[] Yes	No[]
2.	Custody Seals dated and sig	med?	NA[] Yes	No[]
3.	Chain of Custody record pr	esent?	NA[] Yes	No[]
4.	Cooler Temperature:	NA [/ 5.	Vermiculite/packing m	aterials is NA [Wet [] Dry []
6.	Number of samples in shipp	ing container: 2		
7.	Sample holding times exceed	ded?	NA Yes []	No []
8	Samples have: Tape Custody Seals			rd Lables opriate Sample Lables
9.	Samples are: In Good Conditi Broken	ao	Leak Have (Only for sample	ing Air Bubbles es requiring no head space.)
10.	Sample pH taken? NA []	pH<2[] pH>2[]	pH>9[] Amount	HNO ₃ Added
11.	Sample Location, Sample Co*For documentation only.			
12.	Were any anomalies identifi	ed in sample receipt?	Yes []	No L
13.	Description of anomalies (in	iclude sample numbers):	·····	
Sam	ple Custodian:	Al		Date: _5 19 08
	Client Sample ID	Analysis Requested	Condition	Comments/Action
	t Informed on		Person Con	tacted
4 (\$1)				
Proje	ct Manager		Date	

FLUOR HANFORD	NFORD			CHAIN OF	CUSTODY/SA	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	REQUEST		W08	W08-005-56
TAI			3	SEZUCION	18 J8F 200311	1311 W05415	Duc (7 03 08	4	Page 1	of 1
Collector	R. Ellingsworth		303	Contact/Requester Steve Trent	1		Telephone No. 509-373-5869	MSIN	FAX	
SAF No.				Sampling Origi	Origin Site		Purchase Order/Charge Code	Charge Code		
Project Title	90			He	305-N-34	0/	lce Chest No. CWS-00 8		Temp.	
Shinned To (Lah)	out Disklan			Method of Shipment	1000		Bill of Lading/Air Bill No.	Bill No.		
Protocol	otocol					Priority: 45 Days	Offsite Property No.	Vo.		
POSSIBLE SAME	NCINA ** Contains Radioactive Material at concentrations that are not regulated for transportation releasable per DOE Order \$400.5 (1990/1993)	REMARKS concentrations that	at are not regula	ted for transportation per 41	Siper 49 CFR but are not	SPECIAL INSTRUCTIONS Hold Time Site-Wide Generator Knowledge Information Form applies.	Hold Time ion Form applies.	Total Activit	Total Activity Exemption: Yes 🗹 No 📙	Ž S
Sample No.	Lab ID *	Date	Time	No/Type Container		Sample Analysis			Prese	Preservative
B1V8Y9	*	76.09	7511	1x20-mL P	Activity Scan		_	None		
B1V8Y9	8	-	_	3x1000-mL G/P	TC99_SEP_LSC: Tc-99 (1)	(1)		HCI to pH <2		
B1V8Y9	*	4	7	1x4000-mL G/P	GAMMALL_GS: List-1 (9)	1 (9)		HNO3 to pH <2		
Control of the Contro										
Relinquished By R. Ethngswor	26	The same of	5/18	19/08 (200	Received By K. B. Hulse	Print Sign	Date/Time S 19 68		Matrix	1 v.
Relinquished By K. B. Hulse	Ser.	he	5/18	19/88 1345	K. K.	JUANE TAL	/ Date/Time	#8#≥	Scalid T Shadpe V Water I	. =
Relinquished By				Date/Time	Received By		Date/Time	r =	× ×	r t
Relinquished By				Date/Time	Received By		Date/Time			
FINAL SAMPLE DISPOSITION		nod (e.g., Return	to customer, per	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	cess)	Disposed By			Date/Time	

FLUOR HANFORD	FORD		=	IPLE ANAL	S REQUEST	CO.C.# W08-005-310	10
TA		55	J SEALCALL	1005415 Due	C7 13 63	Page 1 of 1	
Collector Working			Contact/Requester	rquester	Telephone No. M	MSIN FAX	Γ
HSAF No.			Sampling Origin Hanford Sie	Origin Sie	Purchase Order/Charge Code		Γ
a			#	HNF-N-564-16	Ice Chest No CUS - 0/5	Temp.	
Shinned To (Lah) TestAmerica Incorporated Richland	norsted Richland		Method of Shipment	Shioment	Bill of Lading/Air Bill No.		
Protocol RCRA				Priority: 45 Days	Offsite Property No.		
POSSIBLE SAMPLE HAZARDS/RE. ** ** Contains Radioactive Material at con releasable per DOE Order 5400.5 (1990/1993)	MA	that are not regula	ted for transportation per 49	SPECIAL INSTRUCTIONS Hold Time Site-Wide Generator Knowledge Information Form applies.		Total Activity Exemption: Yes 🗹 No	E
Sample No.	_	Time	No/Type Container	Sample Analysis		Preservative	
B1V833	0-3/5 M	300	200	Activity Scan	None		
B1V833	*	7	2x4000-mL G/P	1129LL_SEP_LEPS_GS_LL: 1-129 (1)	None		
				KA	KNH13		
					Ave.		
57							
111111111111111111111111111111111111111							
Relinquished By	Print		1 1-	Received By Brint 7 Sign	Date/Time	Matrix *	
	Milho	11 5/19/	63 120	K. B. Hules J. J. Haller	\$ 19/08 100	= Soil	m Solid
K. B. Hulse K. B. Hulse	28 Hale	50. 2	19/08 1345	WILDOWE TAL	SI SAFO & C3 KS SI. W.	- Solinent DI = Solid T = Sludoe WI = Water I = Sludoe	Drum Linui Tissue Wine Linuid
ha paremhinava			Date/I une	Record By		T Air	er
Relinquished By			DateTime	Received By	Date/Time		
FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	n to customer, per	lab procedure, used in proce	ess) Disposed By		Date/Time	

Total Activity Exemption: Yes V No W08-005-122 Preservative FAX Page C.O.C. # Temp. MSIN HCI to pH <2 Ice Chest No GUS-015 Purchase Order/Charge Code Bill of Lading/Air Bill No. None Offsite Property No. Telephone No. 509-373-5869 CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST SPECIAL INSTRUCTIONS Hold Time Site-Wide Generator Knowledge Information Form applies. Due 67.03 CB KNHIG Sample Analysis Priority: 45 Days TC99_SEP_LSC: Tc-99 (1) W05415 HWF W-506 Method of Shioment Govr Vehicle Activity Scan RCRA POSSIBLE SAMPLE HAZARDS/REMARKS ** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993) Contact/Requester Sampling Origin Hanford Site No/Type Container 3x1000-mL G/P T8E300311 1x20-mL P 510-12 0830 Time Date W08-005 Project Title RCRA MAY 2008 Stinned To (Lab) TestAmerica Incornorated Richland ≥ 3 R. Ellingsworth FLUOR HANFORD Selector Refroement SAF No. Project Title LabID Sample No. B1V8H6 B1V8H6 rotocol

5

Relinquished By	景、美	Date/Time	Received By Print Sign	Date/Time	ME	Matrix *
R. Ellingsworth	Tas de	5/19/63 1200	K.B. Hulles	5/19/08 (200)	Soil Soil	9
Relinquished By K. B. Hulse	- Stable	5/19/68 1345	KIN WINE THE	5/908/34S	SF · Sediment SO · Solid SI · Sludge	DI Drim Limi
Relinquished By		Date/Time	Received By	Date/Time	1 1	V - Verretati
Relinquished By		Date/Time	Received By	Date/Time		
FINAL SAMPLE DISPOSITION		Disposal Method (e.g. Return to customer, per lab procedure, used in process	Disposed By		DateTime	me

							The state of the s		CO.C.#	*
FLUOR HANFORD	FORD				CHAIN	OF CU	OF CUSTODY/SAMPLE ANALYSIS REQUEST	EQUEST		W08-005-62
				')	J8E366211	1100	a05415 Aue 07.03.08	80		Page 1 of 1
Collector	R. Ellingsworth	ŧ			Con	Contact/Requester	1	Telephone No. 509-373-5869	MSIN	FAX
SAF No.					Sem	Sampling Origin		Purchase Order/Charge Code	Code	
14						HUF	01 905-	lee Chest No All S - O/S	J/S Temb	d
Shinned In (Lah)					Met	Method of Shipment		Bill of Lading/Air Bill No.		
Protocol	moraneo Ale	THE REAL PROPERTY.		manual Water Street		NAT. VEIDE	Priority: 45 Days	Offsite Property No.		
RCRA POSSIBLE SAMPLE HAZARDS/REMARKS •• •• Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)	E HAZARD pactive Materia er 5400.5 (1990	S/REN l at conca 1/1993)	IARKS entrations that a	ure not regulate	d for transportati	on per 49 CFR	SPE		otal Activity Ex	Total Activity Exemption: Yes 🗷 No
Sample No.	Lab ID	•	Date	Time	No/Type Container	ntainer	Sample Analysis			Preservative
B1V903	100	3	80-81-5	1345	1x20-mL P		Activity Scan	None		
B1V903		3			3x1000-mL	G/P TC	TC99_SEP_LSC: Tc-99 (1)	HCI to pH <2	H <2	
								*		
							KNH3H	+	3	
59										
					1 (1) (1) (1) (1) (1) (1) (1) (1) (1) (1					
			i		į			Pate/Time		Matrix
Relinquished By	5	30	A.	413	일 [월	8	Stale	9/6% (200) Date/Time	n n u	DS.
K. B. Hulse Relinquished By	X	B	3	2/12	/sg (3	٠ ١	AKLILANE 14L S19	S1908 1345 DateTime	Ni. s Studie W s Water O s Oil A s Air	Wi - Wine I, - Limid V - Vectation X - Other
Relinquished By					Date/Time		Received By	Date/Fime		
FINAL SAMPLE DISPOSITION		Method (c.g Return to	customer, per	Disposal Method (c.g Return to customer, per lab procedure, used in process)	ed in process)	Disposed By			Date/Time
	-									

FLUOR HANFORD	VFORD				CHAIN C	F CUSTO	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	VSIS REQUEST	co.c.# W08-005-123
ATTS		8			J86	86260311	W.541.5 Aus	Dux 67 63 08	Page 1 of 1
Collector	R. Ellingsworth	worth			Contr	Contact/Requester		ne No.	MSIN FAX
SAF No.					Samp	Sampling Origin Hanford Site		Purchase Order/Charge Code	į.
Project Title RCRA MAY 2008	œ				~	UNFN-506	01 %	lee Chest No Coll - 015	/ S Temp.
Shinned To (Lab) Test America Incorporated Richland	rnorated Ric	chland			Meth	Method of Shipment		Bill of Lading/Air Bill No.	
Protocol RCB A							Priority: 45 Days	Offsite Property No.	
POSSIBLE SAMPLE HAZARDS/REMARKS •• Contains Radioactive Material at concentrations that are not regulated for transportation per releasable per DOE Order 5400.5 (1990/1993)	I.E HAZAR ioactive Materi er 5400.5 (195	DS/RE; ial at con 90/1993)	MARKS centrations that	are not regula	ted for transportation	per 49 CFR but are not	SPECIAL INSTRUCTIONS Hold Time Site-Wide Generator Knowledge Information Form applies.		Total Activity Exemption: Yes 🗹 No
Sample No.	Lab ID	•	Date	Time	No/Type Container	iner	Sample Analysis	Inalysis	Preservative
B1V8H7		>	81808	5201	1x20-mL P	Activity Scan	an	None	
B1V8H7		>	1	4	3x1000-mL G	G/P TC99_SEP	TC99_SEP_LSC: Tc-99 (1)	HCI to pH <2	<2
								KNHAJ	
60	Port N								The second secon
		\prod							
		\prod							
Relinquished By	\ \(\frac{1}{2} \)	12	Sign	1	Date/Time	Received By K. B. Hulso	ibe Koll	Date/Time	Matrix *
Relinquished By K. B. Hulse		177	0	5/15	Date/Time	Received By	11/405 14	Date/Time ST	Soil DS :
Relinquished By	1	4			Date/T	Recorded By		1	F 6 4
Relinquished By					Date/Time	Received By		Date/Time	
FINAL SAMPLE		Method	(e.g., Return to	customer, per	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	in process)	Disposed By		Date/Time
Distrosi Ilon	-						i i		



Dat	e/Time Received: <u>5</u> 1	908 1345	GM Screen R	Result O, IK	
Clie	nt: Paw	SDG #: WOS		#: WO8-005 NAII	_
	rk Order Number: <u> </u>			w08-005-56,-31	0,-122,-62,
Ship	oping Container ID:				-123
1.	Custody Seals on shipping	container intact?	NA[] Yes	No []	-
2.	Custody Seals dated and s	igned?	NA[] Yes	No[]	
3.	Chain of Custocy record p	resent?	NA[] Yes []	No []	
4.	Cooler Temperature:	NAJ S	. Vermiculite/packing mate	erials is NA [Wet [] Dry [1
6.	Number of samples in ship				21
7.	Sample holding times exce	seded?	NA [Yes []]	No[]	
8	Samples have: Tape Custody Seals		Hazard Approp	Lables priate Sample Lables	
9.	Samples are: In Good Condit Broken	ion	Leaking Have A (Only for samples	g .ir Bubbles requiring no head space.)	
10.	Sample pH taken? NA [pH<2/pre>	pH>9[] Amount H	NO ₃ Added	
Îĥ	Sample Location, Sample *For documentation only.	Collector Listed? * No corrective action needed			
12.	Were any anomalies identi	fied in sample receipt?	Yes[] 1	Now each wo	ine on 5-005-62
	Decempled of anomalies ()			pu to	thine on
Sam	ple Custodian:	PI		Date: 5/908	000
	Client Sample ID	Analysis Requested	Condition	Comments/Action	log in
Clien	t Informed on	by	Person Contac	sted	
[]	lo action necessary; process	os is.			
10011					
Proje	ct Manager		Date		

	FLUOR HANFORD				CHAINOF	CHAIN OF CIISTODY/SAMPLE ANALYSIS BEOLIEST	PLE ANALVS	IS BEOTIEST			108-039-3
ST				۲	2/2 310.0	,		20 10 10			1
AI		k	-	>	0 70	5 (603413	2 Aug	67 64 68		rage 1	Of I
Collector	Roy Sickle	9			Contact/Requester Steve Trent	equester		Telephone No. 509-373-5869	MSIN	FAX	
HRAF No.					Samoline Orlein Hanford Sire	Ortein		Purchase Order/Charge Code	harge Code		
Ι <u>σ</u>	300c V							Ice Chest No. GW - /		Temp.	
Shinned To (Lah)	inned To (Lah) Test America Incorporated Richland	ichland	AN (5-74) (5-74) (5-74)		Method of Shipment Govt Vehicle	Shipment		Bill of Lading/Air Bill No.	Bill No.		
Protocol						Priority: 45 Days	Days	Offsite Property No.	.0.		
POSSIBLE ** ** Control releasable per I	POSTALLE SAMPLE HAZARDS/REMARKS *** Contains Radioactive Material at concentrations eleasable per DOE Order \$400.5 (1990/1993)	RDS/RI erial at co 990/1993	EMARKS succentrations that	t are not regulat.	*** *** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not eleasable per DOE Order 5400.5 (1990/1993)		SPECIAL INSTRUCTIONS Hold Time 100 Area Generator Knowledge Information Form applies.	Hold Time ation Form applies.	Total Activity	Total Activity Exemption: Yes 🗷 No	2
Sample No.	No. Lab ID	•	Date	Time	No/Type Container		Sample Analysis	sis		Preservative	vative
B1V6P7		≥	5/20/06	0855	1x500-mL aG	7196_CR6: Hexavalent Chromium (1)			Cool~4C		
B1V6P7		>	À	*	1x20-mL P	Activity Scan			None		
							×	KNKPI			
		+									
62		+									
		\vdash									
		+							,		
Relinquished By		Fig	Sign	MAV	V 700-000	Received By	Print Sign	Date/Ling	200	Matrix *	
æ	Roy Sickle	11		Ē	1350	大力は高	1	MAY 2 0 2008	v.		r
Relinquished By	By //				Date/fime	Receiped By		Date/Time	# S & ;	Solid T Shidpe WI	
Relinquished By	Ву				Date/Time	Received By		Date/Time	1 1	-> ×	rrr
Relinquished By	By				Date/Time	Received By		Date/Time			
FINAL SAMPLE		al Metho	d (e.g., Return te	o customer, per	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	7585)	Disposed By			Date/Time	
DISPOSITION	LION										

H FLUOR HANFORD	FORD				CHAIN OF	OF CUSTODY/SAMPLE ANALYSIS REQUEST	IS REQUEST	108-039-36	9
та				0	J8E310153	11:05415	Aux 0704.08	Page 1 of 1	
	Roy Sickle				Contact	ster	Telephone No. MSIN 809-373-5869	IN FAX	
					Sampling Origin	e Oriein of Sie	Purchase Order/Charge Code		
Project Title							Ice Chest No.	Тетр.	
Shinned Ta (Lah)	oid between	Mand			Method	Method of Shipment	Bill of Lading/Air Bill No.		
Protocol	diameter Par	THE PARTY OF THE P				Priority: 45 Days	Offsite Property No.		
POSTAL SAMPLE HAZARBS/REMARKS ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)	E HAZARI active Materi r 5400.5 (199	DS/RE:	CARKS entrations that	are not regulate	d for transportation per	3 4S		Total Activity Exemption: Yes 🗹 No	
Sample No.	Lab ID	•	Date	Time	No/Type Container	Sample Analysis	-81	Preservative	7
B1V6T9		3	5/20/08	249	1x500-mL aG	7196_CR6: Hexavalent Chromium (1)	Cool-4C		
B1V6T9		>		8460	1x20-mL P	Activity Scan	None		Ш
						X	KNKDA		
63									1111
Retinquished By Sickle	KIE		Sign	MAY	2 Par 2008 13.00 Rec	Print Sign	MAY 2 0 2006 /350	Matrix *	Sign
Refinquished By					Date/Time	Received By	Date/Time SO	1 1 1	Drum Linui Tissue Wine
Relinquished By					Date/Time	Received By		: > ×	Vereintion
Relinquished By					Date/Fime	Received By	Date/Time		
FINAL SAMPLE DISPOSITION	Disposal	Method	e.g., Return to	customer, per l	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By		Date/Time	1



Date	Time Received: 05 20 08	1350	GM Screen Resu	11 01K
Clien	t: Pow SDG	#:_ <u>[005415</u>	NA[] SAF#:_	IO8-039 NA[]
Worl	k Order Number: <u>J8E31015</u>	3 Cha	in of Custody # <u> </u>	08-039-3,36
Ship	ping Container ID:	Air	Bill #	
1.	Custody Seals on shipping container intac	ct?	NA[] Yes[] No[I
2.	Custody Seals dated and signed?		NA[] Yes[/] No	1
3.	Chain of Custody record present?		NA [] Yes [/] No [1
4.	Cooler Temperature:	NA / 5. Verm	iculite/packing material	s is NA [] Wet [] Dry []
6.	Number of samples in shipping container			
7.	Sample holding times exceeded?		NA [/] Yes [] No [1
8	Samples have: Tape Custody Seals		Hazard Lal	oles e Sample Lables
9.	Samples are: In Good Condition Broken		Leaking Have Air E (Only for samples req	
10.	Sample pH taken? NA[] pH<2[]	pH>2 / pH>9	[] Amount HNO	Added None
11.	Sample Location, Sample Collector Liste *For documentation only. No corrective			
12.	Were any anomalies identified in sample	receipt?	Yes [] No	1
13.	Description of anomalies (include sample	numbers):		
		1		
Samp	ple Custodian:		Da	ite: 05.20.08
ſ	Client Sample ID Analysis	Requested	Condition	Comments/Action
Client	t Informed onby		Person Contacted	
[]N	lo action necessary; process as is.			
Drain	ct Manager		Date	

FLUOR HANFORD	NFORD				CHAIN OF (USTODY/	DF CUSTODY/SAMPLE ANALYSIS REQUEST	YSIS RI	COUEST	<u>;</u>	E	108-038-45
TA					J8E310164	164	ai 54/5	Deci	070fc8	L	Page 1	of 1
Collecton, H.	mo				Contact/Re	quester		Ŧ	Telephone No. 509-373-5869	MSIN	FAX	
HSAF No.					Sampling Origin	riein		<u>a. </u>	Purchase Order/Charge Code	re Code		
Project Title					WA	-905-N-ANH	7	2	Ice Chest No.	I	Temp.	
Shinned To (Lab) Tout America Incorporated Richland	ornorated Ric	Mand			Method of Shipment	Shipment			Bill of Lading/Air Bill No.	I No.		
Protocol							Priority: 45 Days	0	Offsite Property No.			
POSSIBLE SAMI	LE HAZARI dioactive Materia der 5400.5 (199	DS/REN al at cono 0/1993)	(ARKS cutrations that	are not regulate	POSSIBLE SAMPLE HAZARDS/REMARKS *** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order \$400.5 (1990/1993)	CFR but are not	SPECIAL INSTRUCTIONS Hold Time 200 Area Generator Knowledge Information Form applies.	Mold T	ime applies.	Total Activity	Total Activity Exemption: Yes 🗹 No 🗓	2
Sample No.	Lab ID		Date	Time	No/Type Container		Sample	Sample Analysis			Preservative	ative
81V6J3		3	80-52-8	BUST	1x20-mL P	Activity Scan			None			
B1V6J3		3	À	d	2x4000-mL G/P	1129LL_SEP_LEI	1129LL_SEP_LEPS_GS_LL: F129 (1)		None	•		
								KWKOK	906			
65												
Relinquished By	RNOUD Print	2	NA.	Lin auth	Szoog	S.	Print Sign		Date/Time		Matrix	3
Relinquished By					Date/Time	Recorded By	4		Date/Time	R C IN P	Solid T	Tissue
Relinquished By					Date/Time	Received By			Date/Time	1 1		2 2
Relinquished By					Date/Time	Received By			Date/Time			
FINAL SAMPLE DISPOSITION		Method (c.g., Return to	customer, per l	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	(888)	Disposed By				Date/Time	

FLUOR HANFORD	FORD			-	CHAINOE	TOLICE	CHETODY/SAMPLE ANALYGIS DEOLIFET	TOUTO SE	C.O.C.		108-038-44
281					VIII VIII VIII VIII VIII VIII VIII VII	Jr Cost	ODINSAMI DE ANALIS	IS NECOESI	7		
	Î				186	186316164	405415	New (1.04.00			of 1
Con Call Amold					Cont	hact/Requester		Telephone No. 509-373-5869	MSIN	FAX	
HSAF No.					Sam	Sampling Origin Hanford Site		Purchase Order/Charge Code	Charge Code		
Project Title				60		HAF.	S)-925-M	Ice Chest No SML	11 Huga Temp.	mp.	
Shinned To (Lah)	oid between	Mond			Meth	Method of Shipment		Bill of Lading/Air Bill No.	r Bill No.		
Protocol							Priority: 45 Days	Offsite Property No.	No.		
POSSIBLE SAMPLE HAZARDS/REMARKS	E HAZARI	DS/REM	IARKS				SPECIAL INSTRUCTIONS Hold Time 200 Area Generator Knowledge Information Form applies.	Hold Time nation Form applies.	Total Activity E	Total Activity Exemption: Yes 🗹	2 N
Sample No.	Lab CD	-	Date	Time	No/Type Container	ainer	Sample Analysis	ysis		Preservative	Itive
B1V6J2			8-19-28	151			Scan		None		
B1V6J2		3	4	>	2x4000-mL (G/P 1129LL_	1129LL_SEP_LEPS_GS_LL: 1-129 (1)		None		
		1		.0			*	KNY 63			
								26.00			
		1					Carrie Carrier				
56											
								g de la companya de l			
									ē		
Relinquished By FM Amold	Print	4	Print Pu. A. SOL		BEN WINDS	112 82	Print Sign	MAY 4 SHOW		Matrix	
Refinquished By	201 - E-415.	\$	T-vent	AA	Date/Time	Reprived B	1#1 Jan		S. Solid	ment DI.	= Drum Solid = Drum Lioni : Tissue : Wine
Relinquished By					Date/Time	Received By	ă.	Date/Time	1 5 h		3 # #
Relinquished By					Date/Time	Received By	Á,	Date/Time			
FINAL SAMPLE DISPOSITION	Disposal	Method (c	g. Return to	customer, per	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	I in process)	Disposed By			Date/Time	



Date/Time Received:	05.20.08	1350	GM Screen I	Result
Client: Pow	SDG #	W05415	NA[] SAF	#: <u>IO8-038</u> NA[]
Work Order Number	: USE 21016	Cha	in of Custody#	I 08-038-45, 44
Shipping Container II	D:	Air	Bill #	
1. Custody Seals on s	shipping container intact	?	NA[] Yes[/]	No []
2. Custody Seals date	ed and signed?		NA [] Yes [/]	No []
3. Chain of Custody	record present?		NA [] Yes [/]	No []
4. Cooler Temperatur	re: }	NA [/] 5. Verm	iculite/packing ma	terials is NA [/] Wet [] Dry []
6. Number of sample	s in shipping container:	2_		
7. Sample holding tir	nes exceeded?	•	NA [/ Yes []	No []
8 Samples have: Tape Custod	y Seals		A CONTRACTOR OF THE CONTRACTOR	d Lables priate Sample Lables
9. Samples are: In Good Broken		8		ng Air Bubbles s requiring no head space.)
10. Sample pH taken?	NA[] pH<2[]	pH>2 / pH>9	[] Amount F	INO3 Added 10 the
	Sample Collector Listed on only. No corrective a			
12. Were any anomalie	es identified in sample re	eceipt?	Yes[]	No M
13. Description of ano	malies (include sample r	numbers):		
Sample Custodian:				Date: 05-20-08
Client Samp	le ID Analysis F	Requested	Condition	Comments/Action

Client Informed on	by		Person Cont	acted
] No action necessary;	process as is.			
Project Manager			Date	

				J8E31		0173	405415	,5	Due 070408	1.08		of <u>I</u>
Collector R.A.	R. A. Shepard				Contact/Requester	nester			Telephone No.	MSIN	FAX	
SAF No.					Sampling Origin Hanford Site	igin		2	Purchase Order/Charge Code	harge Code		
Project Title					ソンナン	2	1 205-	0/	ice Chest No		Temp.	
Shinned To (Lah)	Dichler	7		100000000000000000000000000000000000000	Method of Shipment	hipment			Bill of Lading/Air Bill No.	Bill No.		
Protocol CT 10 37			A STATE OF THE PERSON NAMED IN COLUMN NAMED IN				Priority: 45 Days		Offsite Property No.			
POSIEN POSIEN	HAZARDS/I ctive Material at 5400.5 (1990/19	REMARK concentration 93)	S to that are not regu	dated for transp	ortation per 49 (FR but are not	Site-Wide Gener	SPECIAL INSTRUCTIONS Hold Time Site-Wide Generator Knowledge Information Form applies.	Hold Time ion Form applies.	Total Activity	Total Activity Exemption: Yes	2 2
Sample No.	LabID	• Date	Time	No/Type	No/Type Container			Sample Analysis	s		Preservative	tive
B1V7M8		W S-1908	274 30	1x20-mL P	a .	Activity Scan				None		
B1V7M8	2	×	1	2x4000-mL	·mL G/P	1129LL_SEP_I	1129LL_SEP_LEPS_GS_LL: 1-129 (1)	(1) 6		None		
B1V7M8	-	7	•	1x4000-mL	mL G/P	GAMMALL_GS: List-1 (9)	S: List-1 (9)		-	4NO3 to pH <2		
									KAKKK			
	\uparrow	4	1									
R.Clinquished By R.A. Shepard Refinquished By	16		M	The state of the s	Date/Time/550 i	ER.	Print JANE	A A	Date/Time	# S 5 5 3	Soil DS Soil DS Solid T Solide WI	Drum Solid Drum Liam Tissue Wine
Relinquished By				Date	Date/Time I	Received By			Date/Time	1 1		- Veretation
Relinquished By			- 14-	Date	Date/Time 1	Received By			Date/Time			
FINAL SAMPLE												



a te	/Time Received: 05		GM Screen F	
ier	nt: Pbw	SDG #: W65		#: <u>508-005</u> na[]
or	k Order Number: 💇	85210 172	Chain of Custody#	508-00566
hip	ping Container ID:	· · · · · · · · · · · · · · · · · · ·	Air Bill#	COLUMN CONTRACTOR OF THE COLUMN COL
	Custody Seals on shipping	g container intact?	NA[] Yes[/	No []
	Custody Seals dated and	signed?	NA[] Yes	No []
	Chain of Custody record	present?	NA[] Yes[/	No []
40	Cooler Temperature:	NA[/] 5.	Vermiculite/packing mat	terials is NA [Wet [] Dry []
L.	Number of samples in shi	pping container:		
7.	Sample holding times exc	eeded?	NA [/] Yes []	No []
8	Samples have: Tape Custody Seals			d Lables priate Sample Lables
).	Samples are: In Good Cond Broken	ition		ng Air Bubbles s requiring no head space.)
0.	Sample pH taken? NA [] pH<2//>// pH>2//	pH>9[] Amount H	INO3 Added None
1.	Sample Location, Sample *For documentation only	Collector Listed? * No corrective action needed.		
2.	Were any anomalies ident	ified in sample receipt?	Yes	No.I
3.	Description of anomalies	(include sample numbers):	fample line	S 205 19 08
C	Uso - Heie Sa	may whe reli	iquiled an	d reduced on 05 00 08
Sam	ple Custodian:	77		Date: 05 20.08
	Client Sample ID	Analysis Requested	Condition	Comments/Action
			D 0 .	
			Person Contr	acted
] 1	No action necessary; proces	s as is.		
2rcie	ect Manager	Annual Control of the	Date	

FLUOR HANFORD	CHAIN OF	F CUSTODY/SAMPLE ANALYSIS REOUEST	REOUEST	co.c. * S08-004-1055
STA	J8F 236267	263 W05415 Buc	Dec 17.07.08	Page 1 of 1
Collector D. R. Williamson	Contact/Requester			MSIN FAX
LAF Ne.	Sampling	ng Origin ford Site	Purchase Order/Charge Code	le
1	\$ 1 m	7-N-506-13	lee Chest No. G. L	Temp.
Shinned To (Lab)	Method of Ship	ment	Bill of Lading/Air Bill No.	
Protocol		Priority: 45 Days	Offsite Property No.	
SURY POSSIBLE SAMPLE HAZARDS/REMARKS • • • Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)	I hat are not regulated for transportation per 4	SPECIAL INSTRUCTIONS Site-Wide Generator Knowledge Informat		Total Activity Exemption: Yes 🗹 No
Sample No. 1.ab ID * Date	Time No/Type Container	Sample Analysis		Preservative
81V2B1 W 5.22.69	-	Activity Scan	None	
81V2B1 W 🗸	Н	PUISO_PLATE_AEA: Pu-238 + 239/240 (2)	HNO3 to pH <2	H-2
		K	WPKV	
70				A CONTRACTOR
A COLUMN AND AND A COLUMN AND A				
Relinquished By Print Sign D. R. Williamson (Aur. 647)	n Date/Tim/200	Received By And Print Sign	MAY 2.2 2018	Matrix • = Soil DS =
Relinquished By	Date/Time	Received By	Date/Time SO	= Solid = Shide
Relinquished By	Date/Time	Received By	Date/Time O A	Air X
Relinquished By	DateTime	Received By	Date/Time	
FINAL SAMPLE Disposal Method (e.g., Return DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	ocess) Disposed By		Date/Time

					TOTAL STREET THE WINDS IN TOTAL STREET			
TAI				78633	1005415	Duc 1717.58	Page	e 1 of 1
Collector D. R. Williamson	5			Contact/Re		Telephone No. 509-373-5869	MSIN	FAX
SAF No.	c			Sampling	Origin Site	Purchase Order/Charge Code	rge Code	
Project Title				マールーエ	-N-506-13	Lee Chest No. G-W) -)-(Temp.	
Shinned To (Lab)				Method of Shipment	Shipment	Bill of Lading/Air Bill No.	ll No.	
Trotocol	THE				Priority: 45 Days	Offsite Property No.		
SUKV POSSIBLE SAMPI.E HAZARDS/REMARKS ** •* Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)	RDS/RF.MJ erial at concen 990/1993)	RKS trations that a	re not regulate	ed for transportation per 45	Site	ld Time Form applies.	Total Activity Exemption:	ption: Yes 🗸 No
Sample No. Lab ID	•	Date	Time	No/Type Container	Sample Analysis			Preservative
+	≯	5.208	lac.	1x20-mL P	Activity Scan	None	9	
B1V297	3	\vdash	*	1x1000-mL P	9310_ALPHABETA_GPC: Alpha + Beta (2)	NH .	HNO3 to pH <2	
					K	KNPKI		
Relinquished By D. R. Williamson	7. S.	Sign .		MAY 2-2-2008	Receiped By A. (Sign	MAY 2 2 2008		3
Relinquished By)		Date/Time	Received By	Date/Time	SC 1 Sediment	DI = Drum Lioni T = Tissue WI = Wine
Relinquished By				Date/Time	Received By	Date/Time	1 1 6	11 11
Relinquished By				Date/Time	Received By	Date/Time		
District Contract of the Contr					Name of Party Part		300	Detections

TSC 2200 C	FLUOR HANFORD	FORD				CHAIN 0	OF CUSTO	F CUSTODY/SAMPLE ANALYSIS REQUEST	SIS REQUEST		-808	S08-004-1052
Control Cont						J863	636363	1005415	Rui. 07	1708	Page 1	of 1
1.26 Date Time No.7 type Container Sample Analysis Perretaes Order/Charse Perretae		Mamson				200	tact/Requester		Telephone No. 500-373-5869	MSIN	FAX	Ÿ
Lab ID Date Time MoType Container Sine-Wide Contract Stocker No.	AF No.					Sam.	pling Origin	2	Purchase Order/	Charge Code		
Lab ID Date Time MoType Container Sine Wide Generator Knowledge Information From application Activity Scan W & 2-22-6/C MOTOP SS10_ALPHABETA_GPC. Alpha + Beta (2) MOTP MOTOP	roject Title	,				Ŧ	2-2-4	500-(3	lee Chest No.	3	Temp.	
Sample Analysis Sample Analysis None ABETA_GPC: Alpha + Beta (2) ANAY 2 2 2008 Date/Time Date/Time Date/Time	inned To (Lab)	oid Property	Plank			Met	hod of Shipment		Bill of Lading/Ai	r Bill No.		
Site-Wide Generator Knowledge Information Form applies. Sample Analysis None WBETA_GPC: Alpha + Beta (2) WWWY HN03 WARETA_GPC: Alpha + Beta (2) WARET	rotocol	TOUGHES WIT	TINGE OF THE PERSON NAMED IN COLUMN 1		Acceptant for the extent blooms.	Marie Commission of the Commis	ion, venicle	Priority: 45 Days	Offsite Property	No.		
140 10 10 10 10 10 10 10	OSSIBLE SAMPI	E. HAZARI Dactive Materia er 5400.5 (1990	M at conc.	(ARKS entrations that :	ire not regulate	ed for transportation	on per 49 CFR but are n		Hold Time mation Form applies.	Total Activ	ity Exemption:	Yes No
W G-22-66 W.CD 1x1000-mL P 9310_ALPHABETA_GPC: Alpha + Beta (2) HNO3 to pH <2	Sample No.	Lab ID	•	Date	Time	No/Type Con	tainer	Sample Anal	lysis		Pres	Preservative
W V V V V V V V V V	317298		_	1306	W.CD	1x20-mL P	Activity St	ican		None		
Print Sign Date/Time Received By Date/Time Dat	31V298		$\overline{}$	*	,	1x1000-mL	П	PHABETA_GPC: Alpha + Beta (2)		HNO3 to pH <2		
Print Sign Date/Fine Received By Date/Time Received By Date/Time Bute/Time Bute/Bute/Bute/Bute/Bute/Bute/Bute/Bute/									KNPKY			
Print Sign Date/Fine Received By L Sign Capar Date/Fine Sign Sign Date/Fine Sign Sign Sign Sign Sign Sign Sign Sign												
Date/Time Received By Date/Time On - Oil Date/Time Received By Date/Time On - Oil A - Air	Celinquished By D. R. Williamsk Relinquished By	79	T/M	Sign	2		Receive	B.U.	Date/Time	∞ ₩\$±	Matrix * Soil D Schinere D Solid T Shidoe W	DS = Drum Solid DL = Drum Ioui T = Tissue WI = Wine
Date/Time Received By Date/Time	Relinquished By					Date/Time			Datc/Time	1 1 1	Water Oil Air	t Limid V - Veretal X - Other
	celinquished By	2012				Date/Time			Date/Time			,
Disposal Method (e.g., Return to customer, per lab procedure, used in process)	FINAL SAMPLE DISPOSITION		Method (c.g., Return to	customer, per	lab procedure, use	d in process)	Disposed By			Date/Time	

FLUOR HANI	FORD				CHA	IN OF	CUSTODY	CHAIN OF CUSTODY/SAMPLE ANALYSIS REOUEST	REOUEST	3	808	S08-004-1049
STAI					78	785330262	62 (11.	W.05415 Due	07.07.08		Page 1	of 1
Collector D. R. W.	D. R. Williamson					Contact/Requester			Telephone No. 509-373-5869	MSIN	FAX	
SAF No.						Sampling (Prigin Cite		Purchase Order/Charge Code	arge Code		
Project Title						2-1-2	8	(0-13	Ice Chest No G.	J	Temp.	À
Shinned To (Lab)	Picked Dick	buel				Method of Ships	l of Shipment		Bill of Lading/Air Bill No.	ill No.		
Protocol	THE TOTAL						1	Priority: 45 Days	Offsite Property No.			
SURV POSSIBLE SAMPLE HAZARDS/REMARKS ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)	E HAZARD etive Material 5400.5 (1990	IS/REM 1 at conce	IARKS intrations that	are not regulat	ted for tra	nsportation per 49	err	Special Instructions Hold Time Site-Wide Generator Knowledge Information Form applies.	Hold Time on Form applies.	Total Activin	v Exemption:	Total Activity Exemption: Yes 🗹 No
Sample No.	Cab ID	•	Date	Time	Nov	No/Type Container		Sample Analysis			- E	Preservative
B1V295		3	5.22.08	(KI)	1x20-mL	mL P	Activity Scan		None	ne		1 2
B1V295		3	4	*	1x500-mL	0-mL aG	7196_CR6: Hexar	7196_CR6: Hexavalent Chromium (1)	8	Cool~4C		
								K	NPKL			
	CHARLES DAY											
Relinquished By D. R. Williamson		Mon	Print Sign	Ž	MAY 22	2	Received By Sm. (M.S.S.M	MAY 22 2008	S	Matrix *	2
Relinquished By					П	Date/Time	Received By		Date/Time	K S 13 8	Solid Shid Shidee	Df Drum Lioni T - Tissue WI - Wine
Relinquished By					G.	Date/Time	Received By		Date/Time	1.1	- L	E.A.
Relinquished By					۵	Date/Timc	Received By		Date/Time			
FINAL SAMPLE DISPOSITION	Disposal	Method (Disposal Method (e.g., Return to customer, per lab procedure, used in	customer, per	lab proce	edure, used in process)	(ssa:	Disposed By		s	Date/Time	

FLUOR HANFORD	9	-		CHAIN OF	CUSTODY	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	S REQUEST		*505	S08-004-1048	90
STA			5	J86 200762	2	W05415 ALL	Auc 07-07-08	x	Page	1 of 1	Γ
Collector D. R. Williamson	nson				quester		Telephone No. 509-173-5869	MSIN		.	
SAF No.	0 1			Sampling Origin Hanford Sire	brigin		Purchase Order/Charge Code	Charge Code			
-				-2-13	JOS-N-	506-13	Ice Chest No G W-(1-13	Temp.		
Shinned To (Lah)	d Dichland			Method of	Shipment		Bill of Lading/Air Bill No.	ir Bill No.			
Protocol			-			Priority: 45 Days	Offsite Property No.	No.			
POSSIBLE SAMPI.F. HAZARDS/REMARKS • • • Contains Radionctive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)	ZARDS/RI Material at co 5 (1990/1993	EMARKS oncentrations that	at are not regula	ted for transportation per 49		SPECIAL INSTRUCTIONS Hold Time Site-Wide Generator Knowledge Information Form applies.	Hold Time ion Form applies.	Total Activ	vitv Exemption	Total Activity Exemption: Yes 🗹 No 🗋	E
Sample No. Lab ID	• Q	Date	Time	No/Type Container		Sample Analysis			- A	Preservative	
B1V294	*	4.2208	000	1x20-mL P	Activity Scan			None			
B1V294	3	_	7	1x500-mL aG	7196_CR6: Hex	7196_CR6: Hexavalent Chromium (1)		Cool~4C			
						X	KNPKN		100		
	+										
74	H										
	+							0.1100			
	+										
Relinquished By	Print	Sign		Date/Timed	Received By	/ / Print / Sign / /	Datestille	2	Mati	Matrix *	
	multell			MAY 2 2 2008	d. d.	THE CHILL	MAY 2 2 2008	بر د	N.	11	n Solid
Relinquished By				Date/Time	Received By		Date/Time	# 9 zi i	Solid Sludge	DI = Drum T = Tiests WI = Wine	Drum Liqui Tissue Wine
Relinquished By				Date/Time	Received By		DateTime	h h lt	Oil Air	: H E	chation
Relinquished By				Date/Time	Received By		Date/Fime	E			
FINAL SAMPLE DisposiTION	sposal Metho	od (e.g., Return	to customer, per	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	(sss)	Disposed By			DateTime	9	

FLUOR HANFORD	ORD				CHAIN OF C	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	ALYSIS REQUES'		S08-	S08-004-1047	74
STAI				0	T8E336763	x 4.05415	Due 070708		Pag	[of]	
Collector	D. R. Williamson		1		Contact/Requester	ester	Telephone No.	MSIN	FAX		
SAF No.					Campling O	Irigin Me	Purchase Orde	Purchase Order/Charge Code			
					1-1-3-	-N-506-13	Ice Chest No CW	ーろり	Temp.		
Shinned To (Lah)	17:0	1			Method of Shipment	ment	Bill of Lading/Air Bill No.	Air Bill No.			
Protocol	District Nic	Danie				Priority: 45 Days	Offsite Property No.	ty No.			
POSTRY POSTRE E SAMPLE HAZARDS/RE/MARKS •• • Contains Radioactive Material at concentrations releasable per DOE Order 5400.5 (1990/1993)	HAZARD ctive Material 5400.5 (1990	S/REM d at conce	IARKS intrations that	are not regulate	NOISY NOISY SOLIDATE HAZARDS/REMARKS ** Collisins Redioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)		SPECIAL INSTRUCTIONS Hold Time Site-Wide Generator Knowledge Information Form applies.	Total Activ	Total Activity Exemption: Yes 🔟	× × ×	 %
Sample No.	CI qe'l	•	Date	Time	No/Type Container	Sar	Sample Analysis		Pre	Preservative	
B1V293		×	5.22 08	0001	1x20-mL P	Activity Scan		None			
B1V293		>	4	*	1x500-mL aG	7196_CR6: Hexavalent Chromium (1)		Cool~4C	E		
							KNAKD				
7											
Relinquished By D. R. Williamson	E .	chi.	Sign.		MAY 2 2 2008	Receipt By Son Fee	MAY 2"	v.	Matrix *	ا! بي	Solid
Relinquished By					Date/Time	Received By	Date	#85:	Solid Shides		Drum Liouri Tissue Wine
Relinquished By					Date/Time	Received By	Date/Time	:	Water Oil Air	H H	epetation ther
Relinquished By					Date/Time	Received By	Date/Time				0
FINAL SAMPLE	Disposal D	Method (c	.g., Return to	customer, per	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	css) Disposed By	sed By		DateTime		
VISI COLLICA											



Sample Check-in List

Date	Time Received: 05	123/08 12.00	GM Screen F	Result .07	
Clien	t: Pow	SDG #: 4054			NAII
Wor	k Order Number: <u>J8</u>	E 220.262	//5 NA[] SAF SO8-004 10 Chain of Custody #	49, 1047,10	18, 1055, 105
Ship	ping Container ID:				
1.	Custody Seals on shipping	container intact?	NA[] Yes		
2.	Custody Seals dated and si	gned?	NA[] Yes[]		
3.	Chain of Custody record pr	resent?	NA[] Yes[/	No[]	
4.	Cooler Temperature:	NA [/] 5	. Vermiculite/packing mat	erials is NA / Wet	[] Dry[]
6.	Number of samples in ship	ping container:			
7.	Sample holding times exce	eded?	NA / Yes []	No[]	
8	Samples have: Tape Custody Seals		Hazard Approp	l Lables priate Sample Lables	
9.	Samples are: In Good Condit Broken	ion	Leakin Have A	g Air Bubbles requiring no head sp	ace.)
10.	Sample pH taken? NA []	pH<2 // pH>2 //	pH>9[] Amount H	NO3 Added No	ne_
11.	Sample Location, Sample C *For documentation only.		ı.		
12.	Were any anomalies identif	ied in sample receipt?	Yes[]	NoV	
13.	Description of anomalies (i	nclude sample numbers): _	-II		
Samp	ole Custodian:	Im. U		Date: 05.22	.08
F	Client Sample ID	Analysis Requested	Condition	Comments/A	ction
}					
Client	Informed on	by	Person Contac	cted	
() N	o action necessary; process a	s is.			
Projec	ı Manager		Date		

ICOC v4.8.32 Comments: Beta: -5.10E-05 uCi/Sa Beta: -5.10E-05 uCi/Sa WO Cnt: 4 Beta: Beta: RPD: 20 RPD: 20 RPD: Balance Id:1120373922 Prep Tech: ManisD UCL: 130 UCL: 105 CR Analyst, Init/Date OCL: Pipet #: Sep1 DT/Tm Tech: Sep2 DT/Tm Tech: Alpha: 4.26E-05 uCi/Sa Alpha: 4.26E-05 uCi/Sa Alpha: Alpha: ICL: 70 LCL: 20 ISV - Insufficient Volume for Analysis ICI: Count On Off (24hr) Circle pc1/L pc1/L pc1/L Scr. Scr Scr Scr RESIDENT PARTICULAR PA SOB410 SS , 57671 RDL: 1 RDL:1 Detector EDE: Sample Preparation/Analysis 6D Pu PrpRC5016, SepRC5010(5839) (100) (5) SO Plutonium-238,239/40 by Alpha Spec 12 528C, 12 52.8t 0 /ATER PC//L PC//L PM, Quote: SS , 57671
All Tests: 8143563 88EA, 8148562 6DSO, 8148563 AZS7, 8148564 BCS8, Pacific Northwest National Lab, PU-239 PU-239 Pu-242 Count Time Min Page 1 200 200 8 pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 RPD: 20 51 CLIENT: HANFORD #Containers: 2 RPD: 20 RPD: 20 RPD: OC Tracer Prep Date #Containers: 1 05/14/08,pd putc11128 05/14/08,pd putc11129 05/14/08,pd 05/14/08,pd putc11127 6960bsnd UCL: 130 UCL: 105 UCL: 105 i i AmíRec 20ML.LP Initial Aliquot Amt/Unit 05/22/2008 10:00 AmiBac: comments: pH <2, DRM 6A/08 111 Clients for Batch: 384868, Pacific Northwest National Laboratory ICL: ICL:20 202.40g,in 200.73g,in 200.30g,in 200.28g,in LCL: 20 LCL: 70 SEL 384868, Pacific Northwest National Laboratory pci/L DC1/L pci/L pci/L pci/L Total Amt/Unit NPKVIAA-SAMP Constituent List: Pacific Northwest National Lab AnalyDueDate: 07/07/2008 6/9/2008 5:16:16 PM
384868, Pacific Northwe
Pacific Northwest Nation
AnalyDueDate: 07/07//
Batch: 8148562 W
SEQ Batch, Test: None RDL:1 RDL:1 RDL:1 RDL: 200 Work Order, Lot, Sample DateTime J8E270000-562-BLK J8E220262-4-SAMP J8E220262-4-DUP 3 KNXGW-1-AA-B 05/22/2008 10:00 4 KNXGW-1-AC-C 2 KNPKV-1-AC-X CKGW1AA-BLK: NXGW1AC-LCS: TAL Richland Richland Wa. 1 KNPKV-1-AA Pu-242 PU-238 PU-238 Pu-242 PU-239

ICOC v4.8.32 Comments: WO Cnt: 4 Balance Id:1120373922 Date: Prep Tech: ManisD CR Analyst, Init/Date Pipet #: Sep2 DT/Tm Tech: Sep1 DT/Tm Tech: ISV - Insufficient Volume for Analysis Count On | Off (24hr) Circle Detector Id Sample Preparation/Analysis ODRS: B ODRS: B ODRS: B Approved By SO Plutonium-238,239/40 by Alpha Spec 6D Pu PrpRC5016, SepRC5010(5039) Count Time Min Sci.Not.: Y Page 2 Sci.Not.: Y Sci.Not.: Y pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 51 CLIENT: HANFORD QC Tracer Prep Date Blk Subt.: N Blk Subt.: N Blk Subt.: N Initial Aliquot Amt/Unit Decay to Sabt: Y Decay to Sabt: Y Decay to Sabt: Y **PCI/I** Total Amt/Unit 6/9/2008 5:16:16 PM

AnalyDueDate: 07/07/2008

Batch: 8148562

D SEQ Batch, Test: None Uncert Level (#s).: 2 Uncert Level (#s).: 2 Uncert Level (#s).: 2 NPKVIAA-SAMP Calc Info: Work Order, Lot, Sample Date Time NXGWIAC-LCS: NXGW1AA-BLK: TAL Richland Richland Wa.

6/12/2008 11:37:29 AM

ICOC Fraction Transfer/Status Report ByDate: 6/13/2007, 6/17/2008, Batch: '8148562', User: *ALL Order By DateTimeAccepting

2 Batch Wor	k Ord CurStat	us A	ccepting		Comments
8148562				The state of the s	
AC	Rev1C	ManisD	6/9/2008 1:04:4	7 PM	
SC		wagarr	IsBatched	5/28/2008 9:05:23 AM	ICOC_RADCALC v4.8.32
SC		ManisD	InPrep	6/9/2008 1:04:47 PM	RICH-RC-5016 REV 7
SC		ManisD	InPrep2	6/9/2008 5:16:38 PM	RICH-RC-5086 REV 3
SC		ManisD	InSep1	6/10/2008 6:59:18 AM	RICH-RC-5087 REV 1
SC		AshworthA	Sep2C	6/11/2008 11:57:07 AM	RICH-RC-5039 REV5
SC		DAWKINSO	CalcC	6/11/2008 8:23:22 PM	RICH-RD-0008 REVISION 4
SC		nortonj	Rev1C	6/12/2008 11:37:21 AM	RICH-RC-0002 REV 8
AC .		ManisD	6/9/2008 5:16:3	8 PM	
AC		ManisD	6/10/2008 6:59:	18	
AC		AshworthA	6/11/2008 11:57	7:07	
4C		DAWKINSO	6/11/2008 8:23:	22 PM	
4C		nortoni	6/12/2008 11:37	7:21	

AU: Accepting Entry; SC: Status Change

TAL Richland

Richland Wa.

Page 1

Grp Rec Cnt:6 ICOCFractions v4.8.33

E/12/2008 10:13:31 AM	Sam	ple Prepa	Sample Preparation/Analysis	ılysis		Balance	Balance Id:1120482733	
(S) 384868, Pacific Northwest National Laboratory , Pacific Northwest National Lab	AZ Gross Alpha PrpRC5014 S7 Gross Alpha by GPC using Am-241 curve	PrpRC5014 by GPC usin	ng Am-241 cui	9.		id	Pipet #: 245	* * * * * * * * * * * * * * * * * * * *
	51 CLIENT: HANFORD	IFORD				Sep1 DT/Tm Tech:	ech:	
Batch: 8148563 WATER pCI/L		PIM, Qu	PM, Quote: SS, 57671	125		Sep2 DT/Tm Tech:	cch:	
						Prep 7	Prep Tech: ,HarrisD (Bxck)	CK3
Work Order, Lot, Total Initial Aliquot Sample DateTime Amt/Unit Amt/Unit	ot OC Tracer Prep Date	Dish	Ppt or Geometry	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 KNPK1-1-AA 200.00g.in		1.5		8	114	INIC	11/2 /0 70x	P. C.
J8E220262-5-SAMP			153	-	Š	Alaka 1 BRE OK IICAKA	-	Boto - 0.545.05 in 0.15a
1					4			
J8E220262-5-DUP			15,7		ב			
05/22/2008 10:00 AmiRec: 20ML,LP	c: 20ML,LP #Cont	#Containers: 2			Scr.	Alpha: 1,83E-05 uCi/Sa		3eta: -9.51E-05 uCi/Sa
3 KNPK4-1-AA 200.20g,in					3			
J8E220262-6-SAMP			15.5					
05/22/2008 10:00 AmtRec: 20ML,LP	c: 20ML,LP #Cont	#Containers: 2			Scr.	Alpha: 1,20E-04 uCi/Sa		Beta: -5.10E-05 uCi/Sa
4 KNXG0-1-AA-B 200.50g,in		-			<u></u>	9	9	
J8E270000-563-BLK			8.0				6	
	c: #Containers: 1	ß: 1			Scr.	Alpha:		Beta:
5 KNXG0-1-AC-C 200.30g,in J8E270000-563-LCS	ASD4491 05/27/08.pd (76/07/07)		_ ,-		90	033)	6/11	
05/22/2008 10:00 #Containers: 1	c: #Containe	ntainers: 1		۸	Scr.	Alpha:		Beta:
solella And acapp	80			1				
All Clients for Batch: 384868, Pacific Northwest National Laboratory	Pacif	Northwest M	ic Northwest National Lab,	88 , 57671				
KNPK11AA-SAMP Constituent List: ALPHA RDL:3 pCi/L LCL:	מכניי	RPD:			7			
TAL Richland Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Richland Wa. pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added	- Diluted Amt, s1 - Sep1 Enrichment Cell, ct-Cock	, s2 - Sep2 ctailed Added	Page 1	· ASI	Insufficient Vol	ISV - Insufficient Volume for Analysis	V. Prep.	WO Cnt; 5 Prep_SamplePrep v4.8.32

Prep_SamplePrep v4.8.32 Comments: WO Cnt: 5 Balance Id:1120482733 CR Analyst, Init/Date Prep Tech: ,HarrisD Dates Pipet #: Sep2 DT/Tm Tech: Sep1 DT/Tm Tech: Count On | Off (24hr) Circle ISV - Insufficient Volume for Analysis Detector Count Time Min Sample Preparation/Analysis ODRS: B ODRS: B ODRS: B Approved By S7 Gross Alpha by GPC using Am-241 curve Ppt or Geometry Page 2 Sci.Not.: Y Sci.Not.: Y Sci.Not.: Y AZ Gross Alpha PrpRC5014 pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Dish RPD: 20 51 CLIENT: HANFORD RPD: Blk Subt .: N Blk Subt.: M Blk Subt.: N QC Tracer Prep Date UCL: 130 OCT: Initial Aliquot Amt/Unit Decay to Sabt: Y Decay to Sabt: Y Decay to Sabt: Y ICL: 70 Į, PCI/IL pci/L Total Amt/Unit 6/12/2008 10:13:33 AM
SS Analy Due Date: 07/07/2008
H Batch: 8148563
D SEO Batch, Test: None Uncert Level (#s).: 2 Uncert Level (#s).: 2 Uncert Level (#s).: 2 MPK11AA-SAMP Calc Info: RDL:3 RDL: Work Order, Lot, Sample DateTime MXG01AC-LCS: CKKG01AA-BLK: ALPHA MXG01AC-LCS: MXG01AA-BLK: TAL Richland Richland Wa. Am-241

6/18/2008 3:34:19 PM

ICOC Fraction Transfer/Status Report ByDate: 6/19/2007, 6/23/2008, Batch: '8148563', User: "ALL Order By DateTimeAccepting

Batch Wor	k Ord CurState	us	Accepting		Comments
8148563		******	******		
4 <i>C</i>	Rev1C	HarrisD	6/12/2008 10:09	9:11	
SC		wagarr	IsBatched	5/28/2008 9:05:23 AM	ICOC_RADCALC v4.8.32
SC		HarrisD	InPrep	6/12/2008 10:09:11 AM	RICH-RC-5014 Revision 7
C		HarrisD	Prep1C	6/12/2008 10:13:36 AM	RICH-RC-5014 REVISION 7
SC.		BockJ	InPrep2	6/12/2008 11:53:54 AM	RICH-RC-5014 REVISION 7
SC .		BockJ	Prep2C	6/16/2008 1:11:02 PM	RICH-RC-5014 REVISION 7
SC .		BlackCL	InCnt1	6/16/2008 1:19:08 PM	RICH-RD-0003 REVISION 5
SC		ClarkR	CalcC	6/17/2008 8:14:14 AM	RICH-RD-0003 REVISION 5
SC .		nortonj	Rev1C	6/18/2008 3:34:14 PM	RICH-RC-0002 REV 8
C		HarrisD	6/12/2008 10:13	3:36	
IC		BockJ	6/12/2008 11:53	3:54	
IC		BockJ	6/16/2008 1:11:	02 PM	
AC .		BlackCL	6/16/2008 1:19:	08 PM	
AC .		ClarkR	6/17/2008 8:14:	14	
AC .		nortonj	6/18/2008 3:34:	14 PM	

AC: Accepting Entry; SC: Status Change

TAL Richland

Richland Wa. TESTAMERICA Page 1

Grp Rec Cnt: 7
ICOCFractions v4.8.33

됨(6/12/2008 10:17:10 AM	Sample	Sample Preparation/Analysis	alysis		Balance	Balance Id:1120482733	2733
(D) 2640c9 Danie Northwat National Japaneter	Dr. C				AWARAN TO THE TOTAL THE TOTAL TO THE TOTAL TOTAL TO THE T	8	V
L 384866, Pacific Northwest National Laboratory .	S8 Gross Beta by GPC usi	SC Gross Beta PrpHC5014 S8 Gross Beta by GPC using Sr/Y-90 curve	92		Pig	Pipet #: 02	<u> </u>
AnalyDueDate: 07/07/2008 ill SUI	51 CLIENT: HANFORD	RD			Sep1 DT/Tm Tech:	ech:	
Batch: 8148564 WATER PCIAL		PM, Quote: SS, 57671	129		Sep2 DT/Tm Tcch:	cch:	
SEC Batch, Test: None					Prep T	ech: ,Harris	Prep Tech: ,HarrisD BOXL }
Work Order, Lot, Total Initial Aliquot Sample DateTime Amt/Unit Amt/Unit	QC Tracer Prep Date	_	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	yst, Comments:
1 KNPK1-1-AC 200.20g,in		1.5	3	25 A	500	6/10/00	مو
		3.6	. 4	0	25/	*	2
05/22/2008 10:00 AmfRec; 20ML,LP #C	OML, LP #Containers:	S: 4		Scr.	Alpha: 1.83E-05 uCi/Sa	Sa	Beta: -9,51E-05 uCi/Sa
2 KNPK4-1-AC 200.10g,in J8E220262-6-SAMP		23. \		Zus			
05/22/2008 10:00	MILLP #Container			Scr.	Apha: 1.20E-04 uCi/Sa	Sa	Beta: -5.10E-05 uCi/Sa
3 KNPK4-1-AD-X 200.10g,in				č			
- 1		2,0		Jag .			
05/22/2008 10:00 AmiRec: 2	AmtRec: 20ML, LP #Containers: 2	s:2		Scr.	Alpha: 1 20E-04 uCi/Sa	Sa	Beta: -5.10E-05 uCi/Sa
4 KNXG1-1-AA-B 200.20g.in				7			
J8E27000-564-BLK		7.0	-	0			
- 1	#Containers: 1		1	Scr.	Alpha:		Beta:
5 KNXG1-1-AC-C 199.30g,in JBE270000-564-LCS	BESB3260 05/27/08.pd	0.5		24	_>		
05/22/2008 10:00 #Containers: 1	#Containers: 1			Sor	Alpha:		Beta:
Sole UN UN O.E.SHOP	20%				¥. *	-	
All Clients for Batch: 384868, Pacific Northwest National Laboratory	Pacific	Northwest National Lab,	, SS , 57671				
KNPKILAC-SAMP Constituent List: BETA RDL:4 pC1/L LCL:	UCL: RPD:						
TAL Richland Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Richland Wa. pd - Prep Dt. r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added	Niluted Amt, s1 - Sep1, s2 richment Cell, ct-Cocktalle	- Sep2 Page 1 od Added	- NSI	ISV - Insufficient Volume for Analysis	me for Analysis		WO Cnt: 5 Prep_SamplePrep v4.8.32
			12. 12. 12.	- color			

6/12/2008 10:17:11 AM	M		The second secon	Sam	ple Prepa	Sample Preparation/Analysis	alvsis		200	Ralance 1d-1120482733	E
				PC Grant Bata BrabCE014	Sample 6014					201700000000000000000000000000000000000	
AnalyDueDate: 07/07/2008	2/2008			St Gross Beta by GPC using Sr/Y-90 curve St CLIENT: HANFORD	y GPC using	g Sr/Y-90 cu	Z.		Pipet #: Sep1 DT/Tm Tech:	Pipet #: n Tech:	
Batch: 8148564			pCI/L						Sep2 DT/Tm Tech:	Tech:	
SEC DAME, 1631, NOIS									Prep	Prep Tech: ,HarrisD	
Work Order, Lot. Sample DateTime	Total Amt/Unit		Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
KNXG11AA-BLK: BETA RDL:4		pci/L	LCL:	UCL:	RPD:						
Sr-90 RDL:		pci/L	ICL:70	UCL:130	RPD: 20						
Calc	: Info: (#s) .: 2	Decay	Decay to Sabt: Y	Blk Subt.: N	200	Sci.Not.: Y	ODRs: B				
KNXG11AA-BLK: Uncert Level (#s).:	18).: 2	Decay	Decay to Sabt: Y	Blk Subt.: N		Sci.Not.: Y	ODRs: B				
Uncert Level (#s).: 2	18).: 2	Decay	Decay to Sabt: Y	Blk Subt.: N		Sci.Not.: Y	ODRs: B				
						Approved By	ed By			Date:	
										r.	
· October											
			110	And Ame	0000	Comp	ASI	Inc. Minister	of malanta		WO Cot: 5
Richland Wa.	Key In - Initial Amt, pd - Prep Dt, r -	mt, 11-17 .r-Refer	inal Amt, di - Dilt ence Dt, ec-Enrici	In - Initial Amt, It - Final Amt, Ot - Diluted Amt, S1 - Sep1, S2 - Sep2 pd - Prep Dt, It - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added	tailed Added	Page 2	<u> </u>	- Insumicient Vol	ISV - Insumcient Volume for Analysis	Prep	Prep_SamplePrep v4.8.32
	-										

84

TESTAMERICA

6/18/2008 3:33:08 PM

ICOC Fraction Transfer/Status Report ByDate: 6/19/2007, 6/23/2008, Batch: '8148564', User: *ALL Order By DateTimeAccepting

Batch Worl	k Ord CurStat	us A	ccepting		Comments
148564			****		
4C	Rev1C	HarrisD	6/12/2008 10:1	4:40	
SC		wagarr	IsBatched	5/28/2008 9:05:23 AM	ICOC_RADCALC v4.8.32
C		HarrisD	InPrep	6/12/2008 10:14:40 AM	RICH-RC-5014 Revision 7
ic		HarrisD	Prep1C	6/12/2008 10:17:12 AM	RICH-RC-5014 REVISION 7
SC		BockJ	InPrep2	6/12/2008 11:53:59 AM	RICH-RC-5014 REVISION 7
C		BockJ	Prep2C	6/16/2008 1:11:23 PM	RICH-RC-5014 REVISION 7
C		BlackCL	InCnt1	6/16/2008 1:19:15 PM	RICH-RD-0003 REVISION 5
C C		DAWKINSO	CalcC	6/16/2008 10:19:24 PM	RICH-RD-0003 REVISION 5
ic		nortonj	Rev1C	6/18/2008 3:33:03 PM	RICH-RC-0002 REV 8
С		HarrisD	6/12/2008 10:1	7:12	
C		BockJ	6/12/2008 11:5	3:59	
C		BockJ	6/16/2008 1:11	23 PM	
IC		BlackCL	6/16/2008 1:19	:15 PM	
AC		DAWKINSO	6/16/2008 10:1	9:24	
C		nortonj	6/18/2008 3:33	:03 PM	

AC: Accepting Entry: SC: Status Change

TAL Richland

Richland Wa.

Page 1

Grp Rec Cnt: 7
ICOCFractions v4.8.33

E/10/2008 3:01:42 PM	Sample Preparation/Analysis	Prepara	tion/Ana	llysis		Balance Id:11	11:01	
384868, Pacific Northwest National Laboratory .	AW Gamma PrpRC5017 TA Gamma by HPGE	7				Pip	Pipet #:	
AnalyDueDate: 07/02/2008: 1	SI CLIENT: HANFORD	0				Sept DT/Tm Tech:	ach:	
Batch: 8148565 WATER pCi/L		M, Quote	PM, Quote: SS, 57671	14		Sep2 DT/Tm Tech:	ach:	
VEC Batch, Test: None						Prep To	Prep Tech: ,HarrisD (라스)	ak y
Work Order, Lot, Total Initial Aliquot Sample DateTime Amt/Unit Amt/Unit	OC Tracer D Prep Date S		Ppt or Geometry	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 KNH1P-1-AC 2000.30g,in	*	2	lac.nus	3	57)	200	6/10/14	
J8E200211-1-SAMP	COM 3XIP 4IP #Containers: 5	Z: 22	-	,—)))	/ ' Alpha: 1.59E-04 uCVSa	7 -	Bets: -4.84E-05 uCi/Sa
2 KNKRQ-1-AA 2000.40g.in				-	97	7,0	<u> </u>	
J8E210172-1-SAMP	DOML,3X4LP #Containers: 4	5.4			4) 13.5	//00 Scr. Apha: 6.89E-03 uCi/Sa 3.1E-01L	7	Beta: 3.15E-04 uCi/Sa
3 KNKRQ-1-AD-X SON PUMPICILITY					J. J.		2117 Gidoson	
J862210172-1-DUP				-	hills -	1 6		90.00
O 05/19/2008 12:45 AmitHec. 9 4 KNXG2-1-AA-B 2000.20g.in	ZUML,3X4L,P *Containers: 4	4		-) di	אלווים פיספב-סיס חלוים	10/2	Defa. 5. DE-04 delea
J8E270000-565-BLK						C Q	1	
05/19/2008 12:45 AmtRec:	#Containers: 1			+	Sor	Alpha:		Beta:
5 KNXG2-1-AC-C 2000.40g,in	QCAG1480 04/23/08.nd				h(5)	NAS		
J8E270000-565-LCS	#Containers: 1			_	Scr.	Alpha:	······	Beta:
Comments: KNKRQ-SAMP "Comments: ISV for gamma dup. Please recount on a different detector. DLH 6/10/08"	dup. Please recount on a di	ifferent dete	ctor. DLH 6/1	.80/0				
Sit wholes phiso.								
All Clients for Batch: 384868, Pacific Northwest National Laboratory	Pacifi	west Nati	c Northwest National Lab,	88 , 57671				
KNHIPIAC-SAMP Constituent List:								
TAL Richland Key: In - Initial Amt, fir Final Amt, dir Diluted Amt, s1 - Sep1, s2 - Sep2 Birhland Wa	Diluted Amt, s1 - Sep1, s2 - 4 prichment Cell, ct-Cocktailed	2	Page 1	- NSI	Insufficient Volu	ISV - Insufficient Volume for Analysis	Pre	WO Cnt: 5 Prep_SamplePrep v4.8.32

	6/10/2008 3:01:43 PM	01:43 PA	5			Sam	nole Prepa	Sample Preparation/Analysis	ysis		Balanc	Balance Id:11		
					•	AW Gamma PrpRC5017	RC5017				ā	Pipet #:		
AMER	AnalyDueDate: 07/02/2008	te: 07/0	2/2008			SI CLIENT: HANFORD	NFORD				Sep1 DT/Tm Tech:	Tech:		
	Batch: 8148565 SFO Batch Test: None	565 tr. None		_	pCi/L						Sep2 DT/Tm Tech:	Tech:		
_											Prep	Prep Tech: ,HarrisD		
_	Work Order, Lot, Sample DateTime	Lot,	Total Amt/Unit	-	Initial Aliquot Amt/Unit	OC Tracer Prep Date	Dish Size	Ppt or Geometry	Count De		Count On Off (24hr) Circle	CR Analyst, init/Date		Comments:
	Co-60 Cs-137 Eu-154 K-40	RDL: 0. RDL: 6.	NDL: 0.00E+00 NDL: 6.00E+00 NDL: 0.00E+00 NDL: 0.00E+00	pci/L pci/L pci/L	LCL: LCL: 70 LCL: LCL:	OCL: OCL:130 OCL: OCL:	RPD: RPD: 20 RPD: RPD:	Cs-134 Cs-137DA Eu-155 Sb-125	RDL: 0.00E+00 RDL: 6.00E+00 RDL: .00E+00 RDL: 0.00E+00	# # # # # # # # # # # # # # # # # # #	LCL: LCL:70 LCL: LCL:	UCL: UCL: UCL: UCL:	RPD: RPD: 20 RPD: RPD:	
	CS-50 CS-50 CS-137 EU-154 K-40		RDL: 0.00E+00 RDL: 6.00E+00 RDL: 0.00E+00 RDL: 0.00E+00	pci/L pci/L pci/L	ijijij		RPD: RPD: RPD:	Cs-134 Cs-137DA Eu-155 SD-125	RDL: 0.00E+00 RDL: 6.00E+00 RDL: .00E+00 RDL: 0.00E+00	pc1/1 pc1/1 pc1/1	ğğğğ	17.77 10.77 10.77 10.77	RPD: RPD: RPD: RPD:	
-	CS-137 CS-137 K-40 RA-228 U-238	MOL:15 MOL:6 MOL:6 MOL:	M 1.	7,124 7,124 7,124 7,124 7,124	LCL: 70 LCL: 70 LCL: 70 LCL: 70	UCL:130 UCL:130 UCL:130 UCL:130	RPD: 20 RPD: 20 RPD: 20	Cs-137DA Ra-226 RA-228DA	RDL:15 RDL: RDL:	pci/t pci/t pci/t	LCL:70 LCL:70 LCL:70	UCL:130 UCL:130 UCL:130	RPD:20 RPD:20 RPD:20	
87	OHIPLAC-SAMP Calc Info: Uncert Level (#s).:	'IAC-SAMP Calc Info: Uncert Level (#s).:	Info: #s).: 2	Decay	Decay to Sabt: Y	Blk Subt.: N		Sci.Not.: Y ODB	ODRs: B					
	Uncert Level	evel	(#8).: 2	Decay	Decay to Sabt: Y	Blk Subt.: N		Sci.Not.: Y ODE	ODRs: B					
	Uncert 1	Uncert Level (#s).: 2	ks).: 2	Decay	Decay to Sabt: Y	Blk Subt.: N		Sci.Not.: Y ODE	ODRs: B					
								Approved By	ву			Date:		
-	TAL Richland	2201	Key: In - Initial Amt, od - Prep Dt. r.	nt, fi-Fil	nal Amt, di - Dili	In - Initial Amt, file Final Amt, dile Diluted Amt, s1 - Sep1, s2 - Sep2 od - Pred Dt. re- Beference Dt. ec-Enrichment Cell. ct-Cocktailed Added		Page 2	ISV - Insuf	ISV - Insufficient Volume for Analysis	for Analysis		WO Cnt: 5 Prep_SamplePrep	WO Cnt: 5 Prep_SamplePrep v4.8.32
_	ATT DIRECTOR		da			in lung manual								

6/19/2008 2:30:15 PM

ICOC Fraction Transfer/Status Report ByDate: 6/20/2007, 6/24/2008, Batch: '8148565', User: *ALL Order By DateTimeAccepting

Batch Work Ord	CurStatus	A	ccepting		Comments
8148565					
4C	Rev1C	HarrisD	6/10/2008 2:16	:53 PM	
SC		wagarr	IsBatched	5/28/2008 9:05:23 AM	ICOC_RADCALC v4.8.32
SC		HarrisD	InPrep	6/10/2008 2:16:53 PM	RICH-RC-5014 Revision 7
SC		HarrisD	Prep1C	6/10/2008 3:01:18 PM	RICH-RC-5017 REVISION 6
SC		BockJ	InPrep2	6/12/2008 2:58:18 PM	RICH-RC-5017 REVISION 6
SC		BockJ	Prep2C	6/16/2008 1:31:31 PM	RICH-RC-5017 REVISION 6
SC		BlackCL	InCnt1	6/16/2008 1:38:58 PM	RICH-RD-0007 REVISION 6
SC		DAWKINSO	CalcC	6/16/2008 9:52:52 PM	RICH-RD-0007 REVISION 6
SC		nortonj	Rev1C	6/19/2008 2:30:09 PM	RICH-RC-0002 REV 8
4C		HarrisD	6/10/2008 3:01	:18 PM	
4 <i>C</i>		BockJ	6/12/2008 2:58	:18 PM	
4C		BockJ	6/16/2008 1:31	:31 PM	
4C		BlackCL	6/16/2008 1:38	:58 PM	
AC .		DAWKINSO	6/16/2008 9:52	:52 PM	
4C		nortonj	6/19/2008 2:30	:09 PM	

AC: Accepting Entry; SC: Status Change

TAL Richland Richland Wa.

Page 1

Grp Rec Cnt: 7
ICOCFractions v4.8.33

局6/18/2008 10:57:12 AM	Samp	le Prepa	Sample Preparation/Analysis	lysis		Balance	Balance Id:1120482733	
1384868, Pacific Northwest National Laboratory , Pacific Northwest National Jah	BN I-129 Prp/SepRC5025	IC5025				Pipet #:	#	
MANAIY Due Date: 07/02/2008	SI CLIENT: HANFORD	ORD				Sep1 DT/Tm Tech:	ij	
Batch: 8148566 WATER pCI/L		PM, Qu	PM, Quote: SS, 57671	7		Sep2 DT/Tm Tech:	÷	
SEQ Batch, Test: None						Prep Ter	Prep Tech: ,HarrisD, (So. 3 72.1)	istelo
Work Order, Lot, Total Initial Aliquot Sample DateTime Amt/Unit Amt/Unit	OC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
	1TA7336 06/16/08		3.05	5-	27	<i>იი</i> ცდ	6/20/00/PC]	
05/18/2008 12:30 AmfRec. 20ML,4LP	Containers: 3	III ners: 3			Scr.	Alpha: -1.58E-03 uCi/Sa		Beta: 2.33E-03 uCi/Sa
) i			34.5		67	2060		
05/18/2008 12:30 AmtRec: 20ML,4LP	AmtRec: 20ML,4LP #Containers: 3	ners: 3			Sar.	Alpha: -1.58E-03 uCl/Sa		Beta: 2.33E-03 uCi/Sa
3896.10	ITA7334 06/16/08		36.0		77	5060		
05/18/2008 14:05	AmtRec: 20ML,4LP #Containers: 3	ners: 3			Scr.	Aipha: 4.30E-04 uCi/Sa		Beta: -4.09E-04 uCl/Sa
3859.00	ITA7333 06/16/08		34.9		2.7	6401	Uzrjam I	r
05/18/2008 11:40 AmiRec: 2	OML, 2X4LP	#Containers: 3			Scr.	Alpha: 4.92E-04 uCi/Sa		Beta: 3.87E-04 uCl/Sa
S KNHOR-1-AA 3778.60g.in J8E200207-2-SAMP	3.5		35,2	TO A	<i>h</i> 7	0501		
05/18/2008 11:40		#Containers: 3		_	Scr.	Alpha: 2.29E-03 uCi/Sa		Beta: 4.75E-04 uCi/Sa
	ITA7341 06/16/06		32.6		رکر	10 21		
05/18/2008 12:15 AmiRec: 20ML2X4LP		#Containers: 3			Scr.	Alpha: 1.53E-03 uCi/Sa		Beta: -1.73E-03 uCi/Sa
3836.30	ITA7340 06/16/08		30.6		27	1236	1/25/06 M	r
05/19/2008 09:15 AmfRec: 20ML	ZX4LP	#Containers: 3			Sor	Alpha: -2.77E-04 uCl/Sa		Beta: 1.36E-03 uCl/Sa
TAL Richland Key: In - Initial Amt, fi - Final Amt, dt - Diluted Amt, st - Sept, s2 - Sep2 Richland Wa. pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added	Viluted Amt, s1 - Sep1, in richment Cell, ct-Cocktr	Sep1, s2 - Sep2 -Cocktailed Added	Page 1	S	ISV - Insufficient Volume for Analysis	ume for Analysis	Prep	WO Cnt: 7 Prep_SamplePrep v4.8.32
						100000000000000000000000000000000000000		

6/18/2008 10:57:13 AM	The state of the s	Sam	ple Prepa	Sample Preparation/Analysis	sis		Balance	Balance Id:1120482733	33
384868, Pacific Northwest National Laboratory Pacific Northwest National Lab	Laboratory ,	BN I-129 Prp/SepRC5 TB Gamma by LEPD	epRC5025 LEPD				qiA	Pipet #:	
AnalyDueDate: 07/02/2008		SI CLIENT: HANFORD	NFORD				Sep1 DT/Tm Tech:	ech:	
Batch: 8148566 WATER	pC//L		PM, Qu	PM, Quote: SS, 57671			Sep2 DT/Tm Tech:	ech:	
ממנו, ופנו. ויפוד							Prep To	Prep Tech: ,HarrisD	
Work Order, Lot, Total Sample DateTime Amt/Unit	Initial Aliquot Amt/Unit	OC Tracer Prep Date	Dish Size		Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	t, Comments:
8 KNKQ3-1-AA	3819.60g,in	ITA7339 06/16/08		352	3-	77	1521	12/9	espore
05/19/2008 11:51 Amthec 20ML,2X4LP	#		Containers: 3)		Scr.	Alpha: -9.31E-04 uCi/Sa		Beta: -2.32E-04 uCi/Sa
9 KNKRQ-1-AC J8E210172-1-SAMP	3899.10g,in	ITA7338 06/16/08		34.3		رر	112!		
05/19/2008 12:45 AmiRec: 2	AmtRec	OML,3X4LP	Containers: 4			Scr.	Alpha: 6.89E-03 uCi/Sa	3.1E-01L	Beta: 3.15E-04 uCi/Sa
	3974.80g,in			36.6		27	1241	12/1	(1etlape
05/18/2008 12:30			iners: 1			Sar.	Alpha:		Beta:
7 11 KNXG4-1-AC-C J8E270000-566-LCS	3983.10g,in	80/91/90		36.8		4	5241		
05/18/2008 12:30 **Conta	AmtRec:	#Containers: 1	iners: 1			Scr.	Alpha:		Beta:
Comments: KNKRQ-SAMP "Comments: ISV for gamma dup. Please recount on a different detector. DLH 6/10/06" $\int \int \int$	nments: ISV for gamma	a dup. Please recount	on a different d	stector. DLH 6/10/0	&				
All Clients for Batch: 384868, Pacific Northwest Mational Laboratory	Mational Laborato		Pacific Northwest National Lab,		88 , 57671				
KNHT01AA-SAMP Constituent List: I-129 RDL:1.00E+00 p	pci/L LCL:	מכדיו	RPD:						
RDL:1.00E+00	pci/L LCL:	מכדי	RPD:	1000					
I-129 RDL:5 KNHT01AA-SAMP Calc Info:	pci/L LCL:70	UCL:130	RPD: 20						
Key:	Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2	Diluted Amt, s1 - Sep1		Page 2	- VSI	Insufficient Volu	ISV - Insufficient Volume for Analysis		WO Cnt: 11
Richland Wa. pd - Prep Dt.	pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added	nrichment Cell, ct-Coc	ktailed Added				ì		orta del leidino del l

Prep_SamplePrep v4.8.32 Comments: WO Cnt: 11 Balance Id:1120482733 CR Analyst, Init/Date Prep Tech: ,HarrisD Date: Pipet #: Sep1 DT/Tm Tech: Sep2 DT/Tm Tech: Count On Off (24hr) Circle ISV - Insufficient Volume for Analysis Detector Id Count Time Min Sample Preparation/Analysis ODRS: B ODES: B ODRS: B Approved By Ppt or Geometry Sci.Not.: Y Page 3 Sci.Not.: Y Sci.Not.: Y pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Dish BN I-129 Prp/SepRC5025 SI CLIENT: HANFORD TB Gamma by LEPD Blk Subt.: N Blk Subt.: N Blk Subt.: N QC Tracer Prep Date Initial Aliquot Amt/Unit Decay to Sabt: Y Decay to Sabt: Y Decay to Sant: Y PCIK Total Amt/Unit 6/18/2008 10:57:13 AM

SS AnalyDueDate: 07/02/2008

H Batch: 3143566

SEO Batch, Test: None Uncert Level (#s).: 2 Uncert Level (#s).: 2 Uncert Level (#s).: 2 Work Order, Lot, Sample DateTime NX641AC-LCS: MKG41AA-BLK: TAL Richland Richland Wa.

6/26/2008 3:29:C7 PM

ICOC Fraction Transfer/Status Report ByDate: 6/27/2007, 7/1/2008, Batch: '8148566', User: 'ALL Order By DateTimeAccepting

Ord CurStat	us Ad	cepting		Comments
	-			
Rev1C	HarrisD	6/18/2008 10:43	2:45	
	wagarr	IsBatched	5/28/2008 9:05:23 AM	ICOC_RADCALC v4.8.32
	HarrisD	InPrep	6/18/2008 10:42:45 AM	RICH-RC-5021 Revision 5
	HarrisD	Prep1C	6/18/2008 10:56:58 AM	RICH-RC-5017 REVISION 6
	BostedD	InPrep2	6/18/2008 1:40:51 PM	RICHRC5025 REVISION 4
	BostedD	Prep2C	6/25/2008 7:14:25 AM	RL-GAM-002 REVISION 0
	BlackCL	InCnt1	6/25/2008 7:17:20 AM	RL-CI-007 REVISION 0
	DAWKINSO	CalcC	6/25/2008 5:01:25 PM	RL-CI-007 REVISION 0
	nortonj	Rev1C	6/26/2008 3:29:02 PM	RICH-RC-0002 REV 8
	HarrisD	6/18/2008 10:56	6:58	
	BostedD	6/18/2008 1:40:	51 PM	
	BostedD	6/25/2008 7:14:	25	
	BlackCL	6/25/2008 7:17:	20	
	DAWKINSO	6/25/2008 5:01:	25 PM	
	nortonj	6/26/2008 3:29	02 PM	
		Rev1C HarrisD wagarr HarrisD HarrisD BostedD BostedD BlackCL DAWKINSO nortonj HarrisD BostedD BlackCL DAWKINSO	Rev1C HarrisD 6/18/2008 10:43 wagarr IsBatched HarrisD InPrep HarrisD Prep1C BostedD InPrep2 BostedD Prep2C BlackCL InCnt1 DAWKINSO CalcC nortonj Rev1C HarrisD 6/18/2008 10:54 BostedD 6/25/2008 7:14 BlackCL 6/25/2008 7:17 DAWKINSO 6/25/2008 5:01:	Rev1C HarrisD 6/18/2008 10:42:45 wagarr IsBatched 5/28/2008 9:05:23 AM HarrisD InPrep 6/18/2008 10:42:45 AM HarrisD Prep1C 6/18/2008 10:56:58 AM BostedD InPrep2 6/18/2008 1:40:51 PM BostedD Prep2C 6/25/2008 7:14:25 AM BlackCL InCnt1 6/25/2008 7:17:20 AM DAWKINSO CalcC 6/25/2008 5:01:25 PM nortonj Rev1C 6/26/2008 3:29:02 PM HarrisD 6/18/2008 10:56:58 BostedD 6/18/2008 1:40:51 PM BostedD 6/25/2008 7:14:25 BlackCL 6/25/2008 7:17:20 DAWKINSO 6/25/2008 5:01:25 PM

AC: Accepting Entry; SC: Status Change

TAL Richland Richland Wa.

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Grp Rec Cnt:7 ICOCFractions v4.8.33

Page 1



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SAMPLE DELIVE	RY GROUP			
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NEW BATCH NUM	MBER 81	17565		
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RC-126, 12/07, Rev 5

Sample Preparation/Analysis		Sep1 DT/Tm Tech:	PM, Quote: SS, 57671 Sep2 DT/Tm Tech:	Prep Tech:	Detector C	9,9	Scr.: Apha: 1.59E-04 uCi/Sa Beta: -4.84E-05 uCi/Sa		Scr: Alpha: 1.59E-04 uCi/Sa Beta: -4.84E-05 uCi/Sa		Scr. Alpha: 9.82E-05 uC//Sa Beta: 4.10E-04 uC//Sa		Scr. Alpha: 9.82E-05 uCi/Sa Beta: 4.10E-04 uCi/Sa		Scr: Alpha: -1,47E-04 uCi/Sa Beta: 1,45E-04 uCi/Sa		Scr. Alpha: 3.63E-04 uCi/Sa Beta: -5.84E-04 uCi/Sa		Scr. Alpha: Beta:	Page 1 ISV - Insufficient Volume for Analysis WO Cnt: 7
Sample Prepa	y , AM Tc-99 Prp/SepRC5078 S5 Technetium-99 by Liquid Scint	SI CLIENT: HANFORD			Initial Aliquot QC Tracer Amt/Unit Prep Date T		AmtRec: 20ML,3XLP,4LP #Containers: 5		Amflec: 20ML,3XLP,4LP #Containers: 5				Aufibec 20ML, 3XLP #Containers: 4				AmiRec: 20ML,3XLP #Containers: 4			Sep2
#5/25/2008 4:30:38 PM	1884868, Pacific Northwest National Laboratory Pacific Northwest National Lab	AnalyDueDate: 07/02/2008	Batch: 8177555 WATER PCIVL	OEC DAICH, 1651. NOIS	Work Order, Lot, Total Sample DateTime Amt/Unit	1 KNH1P-2-AA	J8E200211-1-SAMP	2 KNH1P-2-AD-X	J8E200211-1-DUP	3 KNH16-2-AA	J8E200211-3-SAMP 	4 KNH16-2-AC-S	J8E200211-3-MS	5 KNH2A-2-AA	J8E200211-4-SAMP	6 KNH2J-2-AA	J8E200211-5-SAMP	7 KNXG8-2-AA-B	J8E270000-567-BLK	TAL Richland Key: In - Initial Amt, fi - Final

15/25/2008 4:30:38 PM Direction		Sample	Sample Figuration/Analysis	Inalysis	Color conjust	Ralance Id-	
STA	AMT	AM Tc-99 Prp/SepRC5078	5078			Pipet #:	
AnalyDueDate: 07/02/2008	2 15	51 CLIENT: HANFORD	D Common Science		Sei	Sep1 DT/Tm Tech:	
Batch: 8177555 SEQ Batch, Test: None	pci/L				Set	Sep2 DT/Tm Tech:	
						Prep Tech:	
Work Order, Lot, Total Sample DateTime Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Count Time Min	Detector	Count On JOff (24hr) Circle	CR Analyst, Init/Date	Comments:
8 KNXG8-2-AC-C			707				
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05/18/2008 11:52	AmtRec: #Con	#Containers: 1			Scr.	Alpha:	Beta:
9 KNXG8-2-AD-B			Ē				
J6E270000-567-BLK			-	***************************************			
05/18/2008 11:52	AmtRec:	#Containers: 1			Scr.	Alpha:	Beta:
Comments: KM95C-SAMP "Comments Sr-Longer count, due to low yields drm 6/9/08"	its Sr-Longer count, due to	low yields drm 6/9/0	. 90				
All Clients for Batch: 384868, Pacific Northwest Mational Laboratory	lonal Laboratory	Pacific North	c Northwest National Lab,	ab, 88 , 57671			
KNHIP2AA-SAMP Constituent List:							
KNH162AC-MS:							
KOKG82AA-BLK:							
KNKG82AC-LCS:							
KWKG82AD-BLK:							
CONTIPIAA-SAMP Calc Info: Uncert Level (#s):: 2 De	Decay to Sabt: Y B	Blk Subt.: N	Sci.Not.: Y	ODRS: B			
Level (#s).: 2	Decay to Sabt: Y B	Blk Subt.: N	Sci.Not.: Y	ODRs: B			
evel (#s).: 2	Decay to Sabt: Y B	Blk Subt.: N	Sci.Not.: Y	ODRs: B			
svel (#s).: 2	Decay to Sabt: Y B	Blk Subt.: N	Sci.Not.: Y	ODRs: B			
TAL Richland Key: In - Initial Amt, 1	In - Initial Amt, file Final Amt, dil - Diluted Amt, s1 - Sep1, s2 - Sep2 od - Pren Dt. r. Beference Dt. ex-Enrichment Cell. et Cocktailed Added	imt, s1 - Sep1, s2 - :	Sep2 Page 2	· ASI	ISV - Insufficient Volume for Analysis	ınalysis	WO Cnt: 9
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Balance Id:	Pipet #:	m Tech:	'm Tech:	Prep Tech:	CR Analyst, Init/Date		Date				
Balt		Sep1 DT/Tm Tech:	Sep2 DT/Tm Tech:	£							r Analysis
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Sample Preparation/Analysis					Det	ODRS: B	Approved By				. VSI
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Prepa	CS078 by Liquid	2			-	Sci.Nc					
Sample	AM Tc-99 Prp/SepRC5078 S5 Technetium-99 by Liquid Scint	51 CLIENT: HANFORD			OC Tracer Prep Date	bt.: N					fi - Final Amt di - Diluted Amt st - Sent so - Seno
	M Tc-99 F	SI CLIEN			=	Blk Subt.: N					ed Amt st
	Αœ	æ6			Initial Aliquot Amt/Unit	¥ Ç:					Ji Dilin
			PCI		_	Decay to Sabt: Y				•	- Final Amt
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:30:39 P		ate: 07/0	7555	Ser Morie	r, Lot, eTime	Uncert Level (#s).: 2					
5/20US 4	STAM	aly Due D.	tch: 817	Dalci, in	Work Order, Lot, Sample DateTime	Uncert					TAL Richland
7/9	STAM	Š	Ba	Š _	S			96	 		Ľ

6/30/2008 11:40 55 AM

ICOC Fraction Transfer/Status Report ByDate: 7/1/2007, 7/5/2008, Batch: '8177555', User: 'ALL Order By DateTimeAccepting

Q Batch Wor	k Ord CurState	us	Accepting		Comments
8177555					3930ma (1.5) 2 2 2 3 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4
AC	Rev1C	BlackCL	6/26/2008 9:5	1:13	
SC		BlackCL	InCnt1	6/26/2008 9:51:13 AM	RL-CI-005 REVISION 0
SC		ClarkR	CalcC	6/27/2008 8:39:57 AM	RL-CI-005 REVISION 0
SC		antonsonl	Rev1C	6/30/2008 11;40:46 AM	RICH-RC-0002 REV 8
AC		ClarkR	6/27/2008 8:3	9:57	
AC		antonsoni	6/30/2008 11:	40:46	

AC: Accepting Entry; SC: Status Change

TAL Richland

Richland Wa. ESTAMERICA Page 1

Grp Rec Cnt: 3 ICOCFractions v4.8.33

± 5/22/2008 8:26:37 AM		Sample Preparation/Analysis	paration/Ar	nalysis		Balance Id:	
384868, Pacific Northwest National Laboratory Pacific Northwest National Lab		88 NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION EA Chromium, Hexavalent (7196A)	ATION PERFOR	NED / DIRECT	INJECTION	Pipet #:	
AnalyDueDate: 07/04/2008	SICLIE	51 CLIENT: HANFORD			es.	Sep1 DT/Tm Tech:	
Heatch: 8142640 WATER mg/L SEO Batch. Test: None All Tests: 8142640 88EA.	JA.	PM,	PM, Quote: SS, 57671	1671	S	Sep2 DT/Tm Toch:	
A						Prep Tech:	
Work Order, Lot, Total Sample DateTime Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 KNKP1-1-AA			×				
J8E210153-1-SAMP	AmiRec 20ML 5005	#Containers: 2			Sor	Ainha:	Boto
2 KNKP1-1-AC-S							
J8E210153-1-MS	5005 WOG-00-00-00-00-00-00-00-00-00-00-00-00-00					Albeha	, c
3 KNKP1-1-AD-D						- Durdu	Dette
	AmtRec: 20ML,500G	#Containers: 2			Sor:	Alpha:	Bera:
@ 4 KNKP1-1-AE-X							
J8E210153-1-DUP	AmtHec: 20ML,500G	#Containers: 2			Sor:	Apha:	Beta:
5 KNKP7-1-AA							
J8E210153-2-SAMP	AmtRec: 20ML,500G	#Containers: 2			Scr	Alpha:	Beta:
6 KNMHW-1-AA-B							
J8E210000-640-BLK		#Containers: 1			Sor.	Alpha:	Beta:
7 KNMHW-1-AC-C							
J8E210000-640-LCS 	#				Scr	Alpha	Beta
TAL Richland Key; In Initial Amt. fl. Final Amt. dl. Diluted Amt, s1 - Sep1, s2 - Sep2 Richland Wa. pd - Prep Dt. r - Reference Dt. ec-Enrichment Cell, ct-Cocktailed Added	fi - Final Amt. di - Diluted Amt, s1 - Sep1. s2 - Sep2 Reference Dt. ec-Enrichment Cell, ct-Cocktailed Adde	s1 - Sep1. s2 - Sep2	Page 1	ISV - Ir	ISV - Insufficient Volume for Analysis	nalysis	WO Cnt: 7 ICOC v4.832

ICOC v4.8.32 Comments: WO Cnt: 7 Date: CR Analyst, Init/Date Prep Tech: Pipet #: Sep1 DT/Tm Tech: Sep2 DT/Tm Tech: Balance Id: ISV - Insufficient Volume for Analysis Count On | Off (24hr) Circle 88 NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION SS , 57671 Sample Preparation/Analysis g ODRS: B ODRS: B ODRs: B ODRs: B ODRS: B Approved By Pacific Northwest National Lab, Time Min Sci.Not.: Y Sci.Not.: Y Sci.Not.: Y Sci.Not.: Y Sci.Not.: Y EA Chromium, Hexavalent (7196A) Page 2 pd · Prep Dt. r · Reference Dt. ec-Enrichment Cell. ct-Cockfailed Added Key In . Initial Amt. fi - Final Amt. di - Diluted Amt, s1 - Sep1. s2 - Sep2 51 CLIENT: HANFORD QC Tracer Prep Date Blk Subt.: N Initial Aliquot Amt/Unit 384868, Pacific Northwest National Laboratory Decay to Sabt: Y mg/l Total Amt/Unit NKP11AA-SAMP Constituent List: NKP11AC-MS Constituent List: UNEFILAA-SAMP Calc Info: Uncert Level (#s).: 2 Uncert Level (#s).: 2 Uncert Level (#s).: 2 Uncert Level (#s).: 2 . Uncert Level (#s).: 2 NKP11AC-MS Calc Info: ill Clients for Batch: Work Order, Lot, Sample Date Time MMHWLAA-BLK: NKP11AD-MSD: G KNMHW1AA-BLK: NMHW1AC-LCS: TAL Richland Comments: MKP11AD-MSD: Richland Wa

88 NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION FA Chromium Havavalent (71964)
51 CLIENT: HANFORD
PM, Quote: SS, 57671 Sep2 DT/Tm Tech:
QC Tracer Count Detector Count On Off Prep Date Time Min Id (24hr) Circle
Manufacture of the second seco
Containers: 2 Scr: Alpha:
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Scr: Alpha:
Key In Initial Amt. fi - Final Amt. di - Diluted Amt, st - Sep1, s2 - Sep2 Page 1 ISV - Insufficient Volume for Analysis

5/22/2008 4:08:48	PM				Sample F	Sample Preparation/Analysis	Analysis		Balance Id:		Γ
STĀ			∞ mj	A Chrom	MPLE PREP	88 NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION EA Chromium, Hexavalent (7196A)	ORMED / DIRE	CT INJECTION	Pipet #:		1
AnalyDueDate: 07	//07/2008		,	SI CLIEN	SI CLIENT: HANFORD			ŭ	Sep1 DT/Tm Tech:		
Batch: 8143553	4	Mg/L	M.			50-		ď	Sep2 DT/Tm Tech:		
	2								Prep Tech:		
Work Order, Lot, Sample DateTime	Total Amt/Unit	_	Initial Aliquot Amt/Unit	7	QC Tracer Prep Date	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst.	Comments:	
8 KNP81-1-AC-C											T
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05/22/2008 10:00			AmtRec:	¥	#Containers: 1			Scr.	Alpha:	Beta	
Comments:											
All Clients for Batch: 384868, Pacific Northwest National Laboratory	c Northwest B	National L	aboratory	Pacifi	ific Northw	c Northwest National Lab,	ab, SS , 57671	đ			
KNPKLIAA-SAMP Constituent List:	tituent List										
KNPKP1AC-MS:											
KNPKP1AD-MSD:											
KWP811AA-BLK:											
KWP811AC-LCS:											
KNPKLIAA-SAMP Calc Info: Uncert Level (#s).:	: Info: (#s).: 2	Decay to SaDt: Y	Sabt: Y	Blk Subt.	2	Sci.Not.: Y	ODRs: B		٠		
Uncert Level	(#s).: 2	Decay to Sabt: Y	Sabt: Y	Blk Subt.	N	Sci.Not.: Y	ODRS: B				m
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evel	(#s).: 2	Decay to Sabt: Y	Sabt: Y	Blk Subt.	Z	Sci.Not.: Y	ODRS: B				
						Appr	Approved By	16 (19)	Date:		
TAL Richland Ke	Key In - Initial Amt. fi - Final Amt. di - Diluted Amt. s1 - Sep1. s2 - Sep2 pd - Prep Dt. r - Reference Dt. ec-Enrichment Cell, ct-Cocktailed Added	fi - Final A	fi - Final Amt. di - Diluted Amt. s1 - Sept. s2 - Sep2 Reference Dt. ec-Enrichment Cell. ct-Cocktailed Adde	ad Amt. s1 nent Cell. c	· Sep1. s2 · Se ct-Cocktailed A	ap2 Page 2 dded	NSI	ISV - Insufficient Volume for Analysis	Analysis	WO Cnt: 8 ICOC v4.8.32	3.32